EFFECTIVENESS OF OLIVE OIL BACK MASSAGE ON LOW BACK PAIN AND SELECTED FETOMATERNAL PARAMETERS DURING FIRST STAGE OF LABOR AMONG PRIMI MOTHERS AT KASTHURBA MEMORIAL HOSPITAL, DINDIGUL

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

2009-2011

A STUDY TO EVALUATE THE EFFECTIVENESS OF OLIVE OIL BACK MASSAGE ON LOW BACK PAIN AND SELECTED FETOMATERNAL PARAMETERS

DURING FIRST STAGE OF LABOR AMONG

AMONG PRIMI MOTHERS AT KASTHURBA

MEMORIAL HOSPITAL, DINDIGUL

APPROVED BY DISSERTATION COMMITTEE ON _____

RESEARCH GUIDE

Prof. Mrs. Vijayarani Prince, _____
M.Sc(N)., M.A., M.A., M.Phil(N).,
Principal,
Bishop's College of Nursing,
Dharapuram. – 638 656,

CLINICAL GUIDE

Prof. Mrs. Hepsi Sujatha, M.Sc(N)., _____
Vice Principal,
Bishop's College of Nursing,
Dharapuram. – 638 656,

MEDICAL EXPERT

Dr. Deivamathi, M.B.B.S., D.G.O _____
Obstetrician and Gynecologist,
Nivetha Hospital,
Dharapuram. – 638 656,

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

2009-2011

A STUDY TO EVALUATE THE EFFECTIVENESS OF OLIVE OIL BACK MASSAGE ON LOW BACK PAIN AND SELECTED FETOMATERNAL PARAMETERS

DURING FIRST STAGE OF LABOR AMONG

AMONG PRIMI MOTHERS AT KASTHURBA

MEMORIAL HOSPITAL, DINDIGUL

2009-2011
Certified Bonafide Project Work
Done By

MS. M. MEKALA

M.Sc., Nursing II Year
Bishop's College of Nursing
Dharapuram.

_____ _____

Internal Examiner **External Examiner**

COLLEGE SEAL

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

2009-2011

ACKNOWLEDGEMENT

Glory to God almighty who is the source of strength, foundation of knowledge, source of inspiration in every walk of my life and sustaining me in the completion of this study.

I extend my heart full thanks and gratitude to the **Management,** Bishop's College of Nursing for providing an opportunity to undergo to uplift my professional life.

With deep sense of gratitude, I express my sincere thanks to our beloved principal, **Prof. Vijayarani Prince M.Sc(N)., M.A.,M.A., M.Phil (N) Bishop's college of Nursing** for her expert guidance, thoughts , comments, invaluable suggestions ,constant encouragement and support throughout the period of study.

I express my heartfelt thanks to **Mr. John Wesley**, Administrator, Bishop's College of Nursing, Dharapuram for given me an opportunity to study in this esteemed institution.

My deepest gratitude to **Prof. Mrs. Hepsi Sujatha., M.Sc(N)., Clinical Guide,** Vice Principal, Bishop's College of Nursing, Dharapuram for her patience, motherly love, affectionate, moral support and excellence guidance and valuable suggestions throughout my study.

I owe my profound gratitude to Associate Professor **Mrs. Glory Suresh, M.Sc(N).,** Class coordinator, Bishop's College of Nursing, Dharapuram for her patience guidance, concern, help valuable suggestions throughout my study.

I express my genuine gratitude and obligation to **Dr.M.R.Duraisamy, Ph.D, Associate Prof. (Stat)** for his suggestions in analysis and presentation of data.

I extend my gratitude to **Mr.P.Sampath, M.A.,M.Ed., (English)** for his valuable English editing.

I extend my thanks to **Mrs. D. Siravnjeevi Mery, M.A.,M.Ed., (Tamil)** for his valuable Tamil editing.

I extend my sincere thanks to **Library Staff** for rendering their support and help during the time of my study.

I extend my special gratitude to **Vijay Xerox** for their patience, co-operation, understanding the needs to be incorporated in the study and timely completion of the manuscript.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE NO

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

Childbirth is one of the most marvelous and memorable segment in a women's life. Eventhough delivery is a natural phenomenon, it has been demonstrated that the accompanying pain is considered severe or extreme in more than half of cases. Low back pain is common during labor. It is normally attributed to the pressure baby's head puts on the lower back. Low back pain cannot be prevented, but the pain can be eased by using non pharmacological methods like back massage.

The present study was conducted to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul .

The research design used for this study was quasi experimental design (Non equivalent pre test post test control group design). Conceptual framework adopted in the present study was modified Wieden Bach's – helping art of clinical nursing theory (1969). The sample size was sixty primi mothers. The purposive sampling technique was used to select 60 samples. Out of which 30 in experimental group and 30 in control group. The samples for control and experimental group were selected on alternative days. For experimental group 1-2 samples were selected per day. The pretest was assessed for both experimental and control group by visual analogue scale for low back pain and fetomaternal parameters grading to assess the fetomaternsl parameters. The olive oil back massage was given for 10 minutes for every one hour with 10 ml of olive oil for experimental group. This was followed for three times, in three hours. The post test was done after 15 minutes of every olive oil back massage. Primi mothers in control group were given routine hospital care, and then the post test was done after one hour of pre test. Finally the level of satisfaction on olive oil back massage was assessed by using rating scale among experimental group.

The paired't' value of level of low back pain was 12.914 at 0.05 level of significance shows that there is a significant difference between the pretest and post test level of low back pain in the experimental group. The paired't' value of level of low back pain was 5.294 at 0.05 level of significance shows that there is a significant difference between the pretest and post test level of low back pain in the control group. The independent't' value was 4.310 at 0.05 level of significance shows that there is a significant difference in the level of low back pain between experimental group and control group.

Regarding the level of satisfaction on olive oil back massage, majority 20(66.6%) of primi mothers were adequately satisfied; and least 10(33.3%) of primi mothers were moderately satisfied.

No significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion ($p>0.05$) in the experimental group.

It shows that the olive oil massage was effective in reducing low back pain among primi mothers during first stage of labor

CHAPTER-1

CHAPTER-II

CHAPTER-III

CHAPTER-IV

CHAPTER-V

CHAPTER-VI

REFERENCES

APPENDICES

EFFECTIVENESS OF OLIVE OIL BACK MASSAGE ON LOW BACK PAIN AND SELECTED FETOMATERNAL PARAMETERS DURING FIRST STAGE OF LABOR AMONG PRIMI MOTHERS AT KASTHURBA MEMORIAL HOSPITAL, DINDIGUL

MS. M. MEKALA

M.Sc., Nursing II Year

Bishop's College of Nursing
Dharapuram.

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

2009-2011

CHAPTER – I

INTRODUCTION

"The end of labor is to gain leisure".

-Aristotile (1998)

BACKROUND OF THE STUDY

Pregnancy is a unique, exciting and often joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. It is a period of expectant waiting and one that all of us aspire to experience at least once in our lifetime. Child birth is one of the most painful events that a woman is likely to experience in their life. During labor, many women experience intense lower back pain.

Fraser .D.M., (2000)

Pain in labor is a nearly universal experience for child bearing women. Labor pain is a challenging issue for nurses designing intervention protocols. Pain during labor is caused primarily by uterine muscle contractions and somewhat by pressure on the cervix. This pain manifests itself as cramping in the abdomen, groin, and back. Other causes of pain during labor include pressure on the bladder and bowels by the baby's head and stretching of the birth canal and vagina. Labor events have got great psychological, emotional, and social impact to the women and her family. She experiences stress, physical pain, and fear of dangers. The care giver should be tactful, sensitive and respectful to her. Throughout labor she is given continued encouragement and emotional support and assurance are given to keep up the morale.

Jeyalakshmi S. et.al., (2008)

Pain is said to be 'feeling of distress, suffering or agony caused by stimulation of specialized nerve endings'.

Toole O., (1997)

Back labor refers to the intense lower back pain that many women feel during contractions when they're giving birth. Some women even feel it between contractions.

Gleddie J.G., (1999)

Labor pain as stimuli of receptive neurons arising from contractions of the uterine muscles, which is referred to as the visceral, pelvic, and lumbar – sacral areas. To date labor pain management studies have focused on use of drugs that affect sensory awareness of pain which may have additional effect of impeding women's active participation in giving birth.

Chapman S., (2000)

The nervous system is the master system in the body which processes and regulates all body functions by sending messages from the brain, into the spinal cord, into the peripheral nerves, to all of the different parts of the body, and then back to the brain via the same pathway. The common symptoms include low back pain, hip pain, leg pain, numbness of the groin hip and or leg, as well as the weakness and instability of the lower extremities. These symptoms are as a result of break in the nervous system function.

Ladewig J.,(1990)

Low back pain is only one early sign of labor, but unfortunately for some women, this symptom can multiply the intensity of the birth. Back pain is a normal precursor to birth. In fact, some lower back pain is almost always expected during this process. It is as normal as other signs of labor, such as contractions, water breaking and cramping. This is just the body's natural way to put the expectant

mother on alert and to ready itself for the forthcoming process of labor. In this type of labor, the woman experiences most of the pain associated with contractions in the lower back. This pain can happen not only while the contractions occur, but also in between them. Basically, this means that the mother will feel a constant lower back pain throughout the entire process.

Daikow P.R. et.al., (1998)

The pain can vary from slight to excruciating. As if the continuous lower back pain was not enough, back labor can also express itself through other symptoms. These symptoms can be exaggerated with the baby is in the occiput posterior position. The labor process can slow down with this type of pain. In fact, in some instances, a long break in the labor can occur. Another symptom is a later delivery date than initially planned. The size of the baby can play a major role in lower back pain. Even in a normal birth, the position of the baby's head can cause additional back pain. In the majority of cases, back labor is caused by a baby in the posterior position. The bone at the back on the baby's skull is aligned with the mother's pelvis' posterior section. When the baby is in the position, his head creates more pressure on the mother's lower back.

Leprich D.J. et.al., (1998)

Low-back pain is a major component of labor pain in a substantial number of women. It can radiate to the buttocks and down to the thighs with the cramp like sensations. Occipito posterior position of the vertex is a well known cause of back ache. The occiput, when posterior or a very large baby may unduly compress the para cervical ganglia.

Myles M., (2000)

Non-pharmacological approach to pain includes a wide variety of techniques to address not only the physical sensations of pain but also to prevent suffering by

enhancing the psycho emotional and spiritual components of care. The ideal environment for this approach fosters a sense of comfort and privacy and reflects expectation that the women will remain active and use a variety of techniques. It contains comfort aids and places to walk, bathe, rest. Satisfaction, fulfillment and a sense of accomplishment are often high, and suffering avoided even when pain is great. In fact these positive reactions to child birth are associated more with how the women believes she was treated by her caregivers, her involvement in decision making, and whether her expectations were met, than with the amount of pain she feels.

Mander K., (1998)

Massage is an ancient technique that has been widely employed during labor. Massage is a cost effective nursing intervention that can decrease pain and anxiety during labor and psychological support during labor. Using essential oils, olive oil, and relaxation techniques are reducing the labor pain, perception without any side effects and any health professional could give it.

Jeyalakshmi S., (2008)

Massage and pain Massage stimulates the body to release endorphins, which are natural pain killing and mood lifting substances. Endorphins are the responsible for the "feel good" factor. Massage is recommended by child birth experts because it has been shown to ease pain and reduce anxiety in the first stage of labor. It is also linked with the shorter labors and a low risk for postpartum depression.

Reader S.J., (1990)

Fields., (1997) demonstrated that massage therapy during labor was highly correlated with decreased labor pain, decreased anxiety, and shorter labors. Massage can also assist the new mother.

Olive oil contains palmatic acid, oleic acid, linoleic acid, steanic acid, myristic acid and glycerides. The olive oil is extracted from the ripened fruits. The fruits are processed three times. Successfully the first round oil is the best in quality, golden in color, with a light fragnance and known as virgin oil. It contains therapeutic potential even it is thousand years old. The massage of olive oil over the body tones up the muscles and organs, it relieves muscular pains.

Olive oil has pain killing properties. Scientists were discovered that a new compound in extra virgin oil that acts the same way as anti inflammatory drugs. The compound, which they named oleocanthal, has the same pain relieving qualities as ibubrufen and other non steroidal anti-inflammatory drugs,. The researchers estimated that 50 grams of olive oil provides about 10% of the ibubrufen needed for adult pain relief.

Fields., (1997)

NEED FOR THE STUDY

Child birth has been associated with pain. During labor process occurrence of labor pain is always accompanied with low back pain. Pain during labor is caused primarily by uterine muscle contractions and somewhat by pressure on the cervix. The pain manifests itself as cramping in the abdomen, groin, and back (low back pain) as well as tired, achy feeling all over. Other causes of pain during labor include pressure on the bladder and bowels by the baby's head and stretching of the birth canal and vagina. Throughout the labor process measures had been introduced to help relieve the pain. Various exorcisms can be found in the records from the ancient civilizations. At the beginning of the 19th century other remedies were introduced. Some methods support the natural physiological responses to labor pain the release of endogenous opiods and the gate mechanism.

Jeyalakshmi S., (2008)

Lower back pain during labor is normally attributed to the pressure Baby's head puts on the lower back, but there can be other causes too. Another reason for lower back pain during labor is because of pain from your uterus may be "referred" to the lower back. Studies have found that women who experience back pain during their periods are more likely to experience back pain during labor.

Gita A.,(2008)

According to 2005 survey, the average crude birth rate for the entire world is estimated to be 20.3 births per 1,000 populations. World top ten countries with highest birth rate are Niger 48.8, Mali 47.5, Chad 46.7, Uganda 46.6, Somalia 46.0, Angola 45.4, Liberia 45.0, Congo 44.7, Marshall Island 44.7, Ethiopia 43.7. The crude birth rate in India as 1000 population was 24 by 2004 census. As per the 2001 census, the population of Tamilnadu was 6.24 crores with decadal growth rate of 11.7 percent which is the second lowest in the state next to Kerala. The demographic scenario of

Tamilnadu as per Government of India sample registration system 2002, furnished the birth rate to be 18.5 per 1000 population.

Park K., (2007)

Though pain is a normal during labor, all efforts should be made to reduce it to minimum. UNICEF 2006, analysis states that based on the available data from 74 countries 79 of births in the developing world was conducted by skilled health personnels. As per the community medicine report (2006), in India (Uttarpredesh) 42% were delivered by normal vaginal delivery and Tamilnadu 88% mothers were delivered by normal vaginal delivery.

Silva S., (2000)

Lowe N.K., (1987) conducted a descriptive study to investigate the differences in pain reported by 17 primiparous and 33 multiparous parturients. Subjects responded to the McGill pain questionnaire during the early active and transitional phase of first stage of labor, and immediately after the delivery for the second stage of labor. Although no significant main effect for parity on pain was identified by repeated measures analysis of variance, significant interaction effects suggested that primiparas may experience greater pain during early labor and less pain during second stage than multiparas.

Simkin P.P., (2002) Non pharmacological measures to reduce labor pain have been used throughout history. The systematic review was conducted to assess the safety and efficacy of the best studied technique. Five comfort measures were selected for review based on these criteria: they have been evaluated with prospective controlled studies and they require institutional support. These five methods included continuous labor support, baths, touch and massage, maternal movement

and positioning and intradermal water blocks for back pain relief. Critical evaluations of controlled studies of these five methods are effective in reducing labor pain and improving obstetrical outcomes.

Most women experience severe low back pain during labor. In addition to the pains associated with contractions, many women report continuous low-back pain. This study used the McGill Pain Questionnaire to examine each type of pain. Women during labor also tracked their perceived pain levels at the same time that contractions were registered on cardiotochographic records. The results show that continuous low-back pain is severe and is reported by about 33% of women during labor. It is described as being qualitatively different from the pains associated with uterine contractions. The pain of contractions felt in the back is often reported as "riding on" the continuous low-back pain so that both together may reach "horrible" or "excruciating" intensities. Continuous low-back pain is probably caused by the distention and pressure on adjacent visceral and neural structures in the peritoneum, in contrast to the rhythmic pains that are clearly related to contractions of the uterus. It is possible that each of these major kinds of pain may be controlled by different anesthesiologic and psychologic procedures.

Melzack R. et. al., (1987)

Although labor is often thought of as one of the more painful events in human experience, it ranges widely from women to women and even from pregnancy to pregnancy. Women experience labor pain differently for some, it resembles menstrual cramps; for others severe pressure; and for others, extremely strong waves that feel like diarrhoeal cramps. In addition first time mothers are more likely to give their pain a higher rating those women who've had babies before. So in this study the researcher selected primi gravida mothers.

www.medicare.com

A wide variety of pain relief measures are available to women in labor. This retrospective, descriptive survey design study examined which nonpharmacologic pain-relief techniques laboring women use most often and the effectiveness of the chosen techniques. Of the 10 nonpharmacological strategies rated by the sample (N = 46), massage, acupressure, breathing and relaxation techniques were found to be the most effective. However, no specific technique or techniques were helpful for all participants.

Brown S.T. et. al.,(1991)

Non pharmacological measures are often simple, safe and relatively inexpensive. They provide the women with the sense of control over her childbirth as she makes choices about the measures that are best for her. Massage can relax the body and direct the attention of the nervous system thereby providing distraction during early labor. Generally olive oil has pain killing properties, say scientists who have discovered a new compound in extra virgin oil that acts the same way as anti inflammatory drugs. So the researcher selected olive oil for effective massage.

Leifer G.,(2005)

When researcher was posted in labor room, she noticed that, primi mothers have experienced severe pain during first stage of labor when compared to the multi mothers. Recent studies revealed that non pharmacological measures like back massage, acupressure, music therapy are very effective in reducing the low back pain during first stage of labor. Use of oil makes massage easier to carry and more pleasant to receive. So the researcher is planned to give back massage with olive oil.

The study proposes to determine the effectiveness of olive oil massage in reducing low back pain during labor and changes of fetomaternal parameters during first stage of labor and find out the satisfaction of olive oil back massage therapy among primi mothers.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers who are admitted in labor room at Kasthurba Memorial Hospital, Dindigul .

OBJECTIVES

1) To assess the pre test and post test level of low back pain and fetomaternal parameters in experimental group
2) To assess the post test and post test level of low back pain and fetomaternal parameters in control group
3) To compare the pre test and post test level of low back pain and fetomaternal parameters in experimental group
4) To compare the pre test and post test level of low back pain and fetomaternal parameters in control group
5) To compare the post test level of low back pain and fetomaternal parameters between experimental group and control group
6) To determine the level of satisfaction on olive oil back massage among experimental group primi mothers
7) To find out the association between the post level of low back pain in experimental group with their selected demographic variables.

OPERATIONAL DEFINITIONS

Effectiveness

"It refers to producing an intended result".

Soanes C., (2001)

"In this study effectiveness refers to the extent to which the olive oil massage produces significant changes in reducing low back pain experienced by the primi mother in active first stage of labor by using statistical measurements".

Olive oil

"It is extracted from the ripened olive fruits. The massage of olive oil over the body tones up the muscles and organs, and it relives muscular pains".

www.medicare.com

"In this study 10 ml of Tasconi Pure Olive Oil is used to give back massage to reduce the low back pain as well as prevents friction between the skin and the hand".

Massage

"Massage is the application of manual techniques and adjunctive therapies with the intention of positively affecting the health and wellbeing of the patient".

American Massage Therapy Association., (2004)

"In this study massage refers to back rubbing, with the primi mother lying on her left side, the examiner facing the mother's back and head, by using one hand the deep circular massage is applied for 10 minutes over the sacral region for three times in one hour intervel".

Low back pain

"Low back pain is a common problem because the lumbar region bears the most weight of the body, is the most flexible region of the spinal column, contains nerve routes that are vulnerable to disease, has an poor biochemical structure".

Lewis S., (2007)

In this study it refers to severe low back pain experienced by primi mothers during first stage of labor in the sacral region coinciding with the onset of cervical dilatation.

Fetomaternal parameters

"The measurements which are used to confirm the wellbeing of the fetus and mother".

www.medterms.com

In this study it refers to assessment of fetal heart rate, uterine contraction-duration, uterine contraction–frequency, systolic pressure and diastolic pressure.

Primi mother

"Woman who is pregnant for the first time".

Murray S.S., (1998)

"In this study it refers to woman who is experiencing labor pain for the first time".

First stage of labor

"The first stage of labor starts from the onset of true labor pain and ends with full dilatation of the cervix. Its average duration is 12 hrs in primi gravidae and 6 hrs in multipara".

Dutta D.C., (2004)

"In this study first stage of labor refers to primi mother who is in active first stage of labor, ie., from 3 cm cervical dilatation".

HYPOTHESIS

H_1 : There is a significant difference between the pretest and post test level of low back pain in experimental group

H_2 : There is a significant difference between the pretest and post test level of fetomaternal parameters in experimental group

H_3 : There is a significant difference in the post test level of low back pain between experimental group and control group

H_4 : There is a significant difference in the post test level of fetomaternal parameters between experimental group and control group

H_5 : There will be a significant association between the level of low back pain in experimental group with their selected demographic variable

ASSUMPTIONS

- Mother during labor experiences pain, fatigue, exhaustion.
- Various non pharmacological measures may reduce labor pain
- Nurses play an important play in improving the comfort of the mothers.

DELIMITATIONS

This study is delimited to

- Data collection period is 5 weeks
- Sample size will be 60

PROJECTED OUTCOME

Applying olive oil back massage will reduce the level of low back pain perception, stress, and anxiety among primi mothers. Olive oil back massage will not have any tedious effect on fetus and which will enable the primi mothers to cope up with the pain and promote comfort and relaxation during first stage of labor and thereby enhancing the safe confinement.

ii) CONCEPTUAL FRAMEWORK

Conceptual framework helps to express abstract ideas in a more reality understandable or precise form of the original conceptualization. The conceptual framework for this study was direction from **"Modified Wieden bach's helping art of clinical nursing theory (1969)".**

According to Ernestine Wiedenbach nursing is nurturing and caring for someone in a motherly fashion. Nursing is a helping service that is rendered with compassion, skill and understanding to those need for care, counsel and confidence in the area of health. The practice of nursing comprises a wide variety of services each directed toward the attainment of one of its three components.

Step I : Identifying the need for help

Step II : Ministering the need for help

Step III : Validating that the need for help was met

Central purpose

According to the theorist the nurse's central purpose defines the quality of health desires to effect or sustain in the patient and specifies what she recognizes to be a special responsibility in caring for the patient. In this study the central purpose is to reduce the level of low back pain perception and to monitor the fetomaternal parameters during first stage of labor.

STEP I- IDENTIFYING THE NEED FOR HELP

According to the theorist with in the identification component there are four distinct steps. First the nurse observes the patient, looking for an inconsistency between the expected behavior of the patient and the apparent behavior. Second she attempts to clarify what the inconsistency means. Third she determines the cause of the inconsistency. Finally she validates with the patient that her help is needed.

In this study, the general information which comprises of age, education, residence, type of family, income, and religion. The primi mothers were identified based on the inclusion criteria. The pre test was done for both experimental group and control group by using visual analogue scale for low back pain and biophysiological fetomaternal grades for fetomaternal parameters.

STEP II- MINISTERING THE NEEDED HELP

According to the theorist in ministering to the patient the nurse may give advice or information, make a referral, apply a comfort measures to carryout a therapeutic procedures. The nurse will need to identify the cause and if necessary make an adjustment in the plan of action.

Ministering the needed help it has two components

- Prescription
- Realities

- **Prescription**

According to the theorist a prescription is directive to activity. It specifies both the nature of action that will most likely lead to fulfillment of the nurse's central purpose and thinking process that determines it.

In this study prescription is plan of care to achieve the purpose which include giving olive oil back massage on sacral region for 10 mts in every one hour with 10 ml of olive oil for three times during first stage of labor in experimental group.

- **Realities**

According to the theorist the realities of the situation in which the nurse is to provide nursing care. Realities consist of all factors – physical, physiological, emotional and spiritual that are at play in a situation in which nursing actions occur at any given moment. Wiedenbach's defines five realities as the agent, the recipient, the goal, the means and the framework.

- **Agent**

According to the theorist, the agent is the practicing nurse or her delegate is characterized by personal attribute capacities, capabilities and most importantly commitment and competence in nursing. In this study the investigator is the agent.

❖ **Recipient**

According to the theorist the recipient is the patient, is characterized by the personal attributes, problem, capabilities, aspirations and most important the ability to cope up with the concerns or problems being experienced. In this study recipients are primi mothers who are in first stage of labor.

❖ **Goal**

According to the theorist the goal is the desired outcome of the nurse wishes to achieve. The goal is the end result to be attained by nursing action. In this study it refers to reduce the level of low back pain, to monitor the fetomaternal parameters during first stage of labor and determine the level of satisfaction on olive oil back massage in experimental group.

❖ **Means**

According to the theorist the means comprise the activities and devices through which the practitioner to attain her goal. The means include skills, technique, procedures and devices that may be used to facilitate nursing practice. In this study it refers to application of olive oil back massage.

❖ **Framework**

According to the theorist the framework consist of the human environmental, professional and organizational facilities that not only make up the context within which nursing is practiced but also constitute is currently existing limits. In this study it refers to labor room at Kasthurba Memorial Hospital, Dindigul.

STEP III- VALIDATING THE NEED FOR HELP WAS MET

According to the theorist the component is validation. After help has been ministered the nurse validates that the actions were indeed helpful. Evidence must come from the patient that the purpose of the nursing actions has been fulfilled.

In this study, validating the need for help was met by means of post assessment of level of low back pain by visual analogue scale, fetomaternal parameters by observational checklist for both experimental group and control group and the assessment of level of satisfaction on olive oil back massage by rating scale in experimental group.

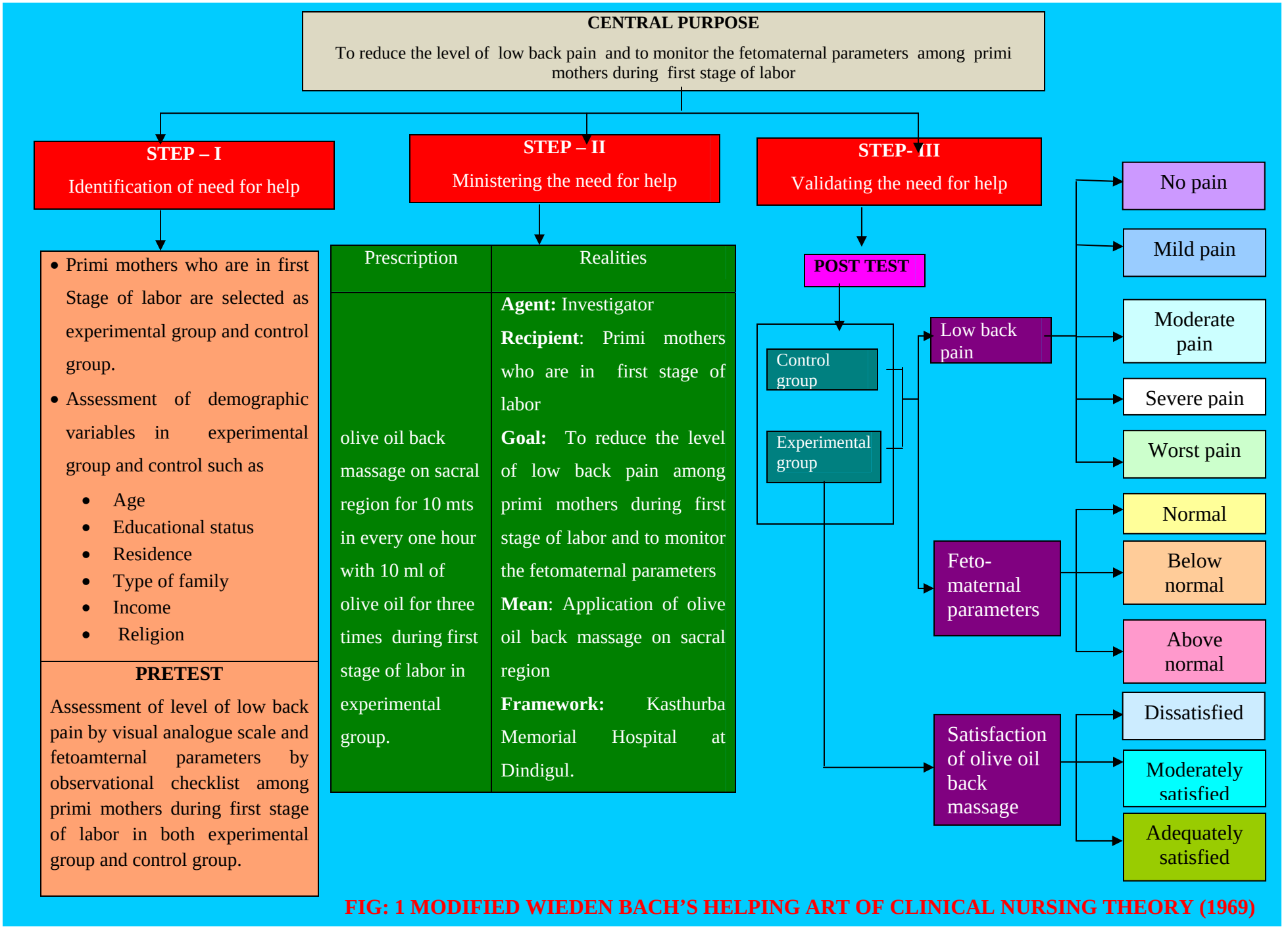


FIG: 1 MODIFIED WIEDEN BACH'S HELPING ART OF CLINICAL NURSING THEORY (1969)

CHAPTER II

REVIEW OF LITERATURE

The literature review involves the systematic identification, location, scrutiny and summary of written materials that contain information of a research problem.

Polit and Hungler., (2004)

The literature gathered from exclusive review is depicted under the following heading.

Part I

Overview of labor pain, low back pain and massage techniques

Part II

A. Studies related to low back pain
B. Studies related to Non pharmacological treatment during labor process
C. Studies related to massage therapy

PART I

OVERVIEW OF LABOR PAIN

Definition of pain

According to O"Toole.,(1997) pain said to be a feeling of distress, suffering or agony caused by stimulation of specialized nerve endings.

According to Tefler.,(1997) pain is complex, personal subjective, multifactorial phenomenon which is influenced by psychological biological, sociocultural and economic factors.

A variety of factors affect the intensity and amount of pain experienced by women in labor. There include,

- Perception of pain
- Tolerance of pain
- Coping mechanisms
- Individual meaning of pain
- Expression of pain

Factors Influencing Women's Perception of Pain

- Biological
- Psychological
- Social
- Spiritual
- Cultural and
- Educational dimensions

Fraser D.M., (1997)

During first stage of normal labor, pain or discomfort may result from involuntary contractions of the uterine muscle. Contractions tend to be felt in the lower back at the beginning of labor. As labor progresses, the sensation encircles the lower torso, covering the back and abdomen. As labor progresses, the intensity of each contraction increases, resulting in a greater intensity of pain.

Reeder S.J. et.al., (1997)

Physiology of Pain

Neurologic origins

During first stage of labor, uterine contractions cause cervical dilatation and effacement. Uterine ischemia results from compression of the arteries supplying myometrium during uterine contractions. Pain impulses during the first stage of labor are transmitted via the T_{11} to T_{12} spinal nerve segment and accessory lower thoracic and upper lumbar sympathetic nerves. These nerves originate in the uterine body and cervix.

Lowe P., (2002)

Endorphins are endogenous opiods secreted by the pituitary gland that act on the central and peripheral nervous system to reduce pain. It is thought that endorphin levels increase during pregnancy and birth in humans. Higher endorphin level may increase the ability of women in labor to tolerate acute pain and may reduce irritability and anxiety.

Righard H., (2001)

Gate control theory of pain

The Melzack – Wall gate control theory of pain the most widely accepted theory of pain response and control today, proposes that pain can be halted at three points: the peripheral end terminals, the synapse points in the dorsal horn, or the point the impulse is interpreted as pain in the brain cortex. Pain in the peripheral terminals is automatically reduced by the production of endorphins and enkephalins, naturally occurring opiates that act to limit the transmission of pain from the end terminals. The gate control theory states that a neural or spinal gating mechanism occurs in the substantia gelatinisa in dorsal horns of the spinal cord the nerve impulses received by nociceptors, the receptor for pain in the skin and tissue of the body, are affected by the gating mechanism. It is the position of the gate

that determines whether or not the nerve impulses travel freely to the medulla and thalamus, thereby transmitting sensory impulse or message to the sensory cortex. If the gate is closed, there is a little of no conduction. If the gate is open, the impulses and messages pass and are transmitted freely. Therefore when the gate is open, pain and sensation is experienced.

Melzack W., (1965)

Labor pain accompanied with low back pain can be reduced by distraction techniques. Distraction techniques such as massage, music and imagery reduce or completely block the capacity of nerve pathways to transmit pain. These distractions are thought to work by closing down a hypothetic gate in the spinal cord, thus preventing pain signals from reaching the brain.

Melzack W., (1965)

Pregnancy related causes

During pregnancy certain amount of softening and stretching of pelvic ligaments takes place which results in slight separation of joints. Because of strain on these joints can cause low back ache in the laboring mother during first stage of labor.

Myles M., (2000)

Pain sensation

During pain, mother experiencing fear and anxiety. Painful stimulus may also reduce such changes by the sympathetic nervous system as increased heart rate rise in blood pressure. Release of alternative in to the

blood stream and an increased in blood glucose levels, decreased gastric motility and reduction in the blood supply to the skin cause sweating.

Fraser D.M., (1997)

OVERVIEW OF LOW BACK PAIN

The pain from cervical changes, distention of the lower uterine segment, and uterine ischemia that predominates during the first stage of labor is visceral pain. It is located over the lower portion of the abdomen. Referral pain occurs when the pain that originates in the uterus radiates to the abdominal wall, lumbo sacral area of the back, iliac crest, gluteal area and down the thighs. The woman usually has discomfort only during contractions and is free of pain between contractions, although some woman has continuous contractions – related to low back pain, even in the interval between contractions.

Physiologic factors women with history of dysmenorrhea may experience increased pain during child birth as a result of higher prostaglandin levels. Back pain associated with menstruation also may increase the likelihood of contraction- related low back pain.

Lowedermilk P. et.al., (2002)

Fetal Position

An occiput posterior position is a common variant seen in otherwise normal labors. In this position, each contraction pushes the fetal occiput against the women's sacrum. She experiences intense back discomfort that persists between contractions. Back pain may decrease dramatically when a fetus rotates into the more favorable occiput posterior position.

Murray S.S., (1998)

Non Pharmacological Method of Pain Control

Non pharmacological measures are often simple, safe and relatively inexpensive. Enkin stated that the selective non pharmacological measures like massage, counter pressure, effleurage, walking, changing positions, breathing techniques, application of heat and cold and music forms of care likely to be beneficial during first stage of labor.

Enkin et.al., (2000)

Non pharmacological measures are,

- Homeopathy
- Hydrotherapy
- Music therapy
- Touch and massage

Touching another human being can communicate positive messages such as caring, concern, reassurances, or love. Massage, "The intentional and systematic manipulation of the soft tissues of the body to enhance health and healing is used during labor to enhance relaxation and reduce pain and suffering".

Fraser D.M., (1997)

MASSAGE TECHNIQUE

Massage is an ancient therapy that has been used in China for more than 5000 years. The results in many studies point to the positive effects of massage in producing relaxation, improving sleep, and reduce pain.

There are number of types of massage: Swedish (a more vigorous massage with long, flowing strokes); Esalen (a meditative massage with light touch); deep tissue or neuromuscular and reflexology.

Scientific Basis Massage is the natural healing process that helps to connect the body, mind, and sprit. It produces therapeutic effects. Massage has been found to produce a relaxation response. Investigators have reported that massage resulted in a decrease in physiological parameters indicative of the relaxation response. Reports from number of studies have validated that patients were more comfortable after the administration of massage. The positive impact of massage on pain reduction is often posited from the gate control theory with massage stimulating the large diameter nerve fibers that have an inhibitory input on T- cells.

Snyder M., (2001)

Massage is one such complimentary therapy. It is form to touch, and as such in an important form of communication. The massage techniques used during the first stage of labor are specifically designed to support the women with her breathing during contractions. The massage therefore directional, reasonably firm and rhythmic. Back, leg, and arm massage is taught together with the optimum positions to facilitate each of these. Hand and foot massage using circular strokes has no relationship to this breathing/ relaxation approach.

It is important that the massage is started early in labor. So that the couple can get used to working together with the massage and breathing.

Specific massage techniques are,

- Circular hip massage
- whole back massage
- Upper back and shoulder massage
- Sacral pressure massage from the side

- Leg massage
- Arm massage

Fraser D.M., (1997)

PART II

A) STUDIES RELATED TO LOW BACK PAIN

Tzeng Y.L and Su T.J., (2008) conducted a study regarding low back pain. A substantial proportion of women in labor suffer from low back pain. The purpose of a research was to (1) describe the following characteristics of low back pain during labor: prevalence, anatomic regions affected, type, pattern, intensity, trend, effective interventions and exacerbating factors; (2) identify the factors relating to intrapartum low back pain in Taiwan women. A co relational designed with repeated measures was used to conduct this investigation. Ninety three low risk women in labor were recruited from a medical center in central Taiwan. Low back pain was repeatedly measured during the latent phase (cervix dilated 2-4 cm), early active phase (cervix dilated 5-7 cm), and late active phase (cervix dilated 8-10 cm) of labor. Data were analyzed using descriptive statistics, repeated measurement ANOVA, and logistic regression. The result showed as many as 75.3% of participants suffered episodes of low back pain during labor. The mean pain scores were 36.66-76.20 in the various stages of labor. The type of low back pain in 54.29% of women in labor was "muscle soreness and pain"; the pattern of pain in 45.71% women was continuous. Massage was chosen as the most effective intervention to alleviate low back pain by 65.3% of women. The women in labor who suffered from low back pain during pregnancy (OR= 1.13; p=0.02) were most likely to be in the low back pain group. In conclusion,

the study demonstrates low back pain intensified with the progression of labor, suggesting early prevention is necessary, especially in the case of women who had low back pain during pregnancy and heavier body weight when hospitalized.

Martins R.F and Silva J.L.,(2005) conducted a study to evaluate the prevalence of back pains, identify their location and the association between age, time of pregnancy, nervous injury and the presence of pain prior to pregnancy. Back pain was identified by means of a descriptive study. From January to December of 2001, using a questionnaire structured by the authors, 203 pregnant women arriving for Pre-natal care were interviewed after selection in the waiting rooms of the Primary Health care Units of the city of Paulínia. Prevalence of back pain was of 79.8%; of these locations in the lumbar region was reported by 80.8% and in the sacroiliac by 49.1% of the pregnant women. Pain was more frequent among younger women. Prevalence of back pain did not increase with progress of pregnancy. Symptoms of nervous injury not related to the site of the back pain were reported by 47.7% of those pregnant. The study revealed that Almost 80% of the pregnant women reported back pain at some time during pregnancy. The most often reported sites were the lumbar and sacroiliac. Pain was more frequent among the younger women. Half of the pregnant women reported symptoms of nervous injury.

Diakow P.R. et.al., (2000) conducted a retrospective study of 400 pregnancies and deliveries was undertaken by interview of 170 consecutive female patients presenting to five chiropractic offices in the

Niagara Peninsula. Back pain was reported during 42.5% (170) of the pregnancies and 44.7% (179) of the deliveries. There was a statistically significant association between back pain during the two events (p less than .001). Of the 170 pregnancies with reported back pain, 72% (122) also reported back labor. A sub sample of 170 painful pregnancies was divided into those that had received manual manipulation and those that had not. The treated group experienced less pain during labor (p less than .001).

Corli O. et.al., (1986) conducted a clinical study regarding Correlation between subjective labor pain and uterine contractions. Fifteen primiparous women underwent tocography during the second phase of the first stage of labour in order to evaluate the main characteristics of their uterine contractions (intensity, duration and pattern). At the end of each contraction, for a total of about 8 contractions per woman and an overall total of 125 tocographic curves, each woman was asked to make a subjective evaluation of the pain felt during that contraction using a 10 cm visual analogue scale (VAS). All the tocographic curves corresponding to the contractions studied were elaborated mathematically to determine the peak (intensity), base (duration) and area under the curve (AUC). Lastly, correlations between the mathematical parameters of the curves and corresponding VAS scores were sought. In the population a general positive correlation between the 3 main parameters of tocographic curves and the VAS score was demonstrated; the AUC and the peak tended to be better correlated with VAS than duration. Within-subject comparison showed the existence of a significant correlation with VAS score in 12/15 women as far as peaks are concerned, in 10/15 as far as AUC is concerned

and in 0/15 women as regards duration. The findings support the concept that perceived labor pain depends in most of the women on the intensity and pattern of the uterine contractions. The possible clinical and experimental applications of this finding are discussed.

Molina F.J. et.al., (1996) designed to evaluate the relationship between the parturient's position and her abdominal and lumbar pain during the first stage of labor. A homogenous group of 100 parturients was randomly assigned to alternately assume the horizontal or the vertical position for 15-min periods. Their pain was measured at 2–3, 4–5, 6–7, and 8–9 centimeters dilatation. To avoid "carry over" effect, these positions were preceded by a self-elected posture. Thus, the patient adopted (a) a self-elected position, (b) recumbent (or erect), (c) a self-elected position, (d) erect (or recumbent), and so on. Pain intensity was measured by the Argentine Pain Questionnaire's Present Pain intensity and the Huskisson's visual analogue scale. Only the patients with at least one pain evaluation in both positions using both instruments were included in the study. The setting for the study was the obstetric department of a general hospital for people connected with public education (professors, teachers, or members of school administrative staffs). The analysis revealed that a majority of patients felt less abdominal and lumbar pain, either continuous or due to contractions, during recumbency. The effect was more remarkable when dilation exceeded 5 centimeters and less intense during the first half of the first stage of labor.

Ostgaard H.C. et.al., (1991) conducted a study regarding the impact of low back and pelvic pain in pregnancy on the pregnancy outcome. The prevalence and characteristics of back pain were recorded in 855 women on nine occasions during pregnancy from the 12th to the 36th week of gestation. Data on delivery and pain relief were recorded. At 12 months post partum the women were reassessed regarding the presence of back pain. Women with a history of back pain had more intense pain (p less than 0.05). No correlation was observed between back pain (a) during pregnancy and (b) after pregnancy and delivery, nor between (a) the need for pain relief in labor and (b) birth weight, length and Apgar score. Back pain usually disappeared in the first 6 months post partum, except in women with recurrent back pain from previous pregnancies. Eighty-two percent of these women continued to have back pain at 18 months post partum, compared with 45% of all other multi-parous women (p less than 0.001).

B) STUDIES RELATED TO NON PHARMACOLOGICAL MEASURES TO REDUCE LABOR PAIN

Mohanal et.al., (2008) conducted a study to evaluate the effectiveness of acupressure on labor outcome among primi mothers in maternity center, Chennai. Fifty primi parturient mothers who have fulfilled the inclusion criteria were selected using non probability purposive sampling technique. In the experimental group, the pressure was applied on the SP6 meridian point in the leg. The pre and post test level of labor pain was obtained using modified combined numerical categorical scale. Analysis revealed that the mother in the experimental

group showed a highly significant decrease in the level of labor pain and duration of labor following SP6 acupressure at P<0.001 when copared with the control group. Administration of acupressure in the SP6 meridian point in the leg of primi parturient others enhance reduction of labor pain. Therefore, acupressure can be a safe and effective tool, which helps in reducing pain shortening the duration of labor.

Davim R.M., (2007) the descriptive study aimed to evaluate the effectiveness of non pharmacological strategies (NFS) on pain relief of parturients. In order to evaluate the NFS, the Analogous Visual Scale (AVS) was used on 30 parturients attended at the humanized labor unit of a school maternity hospital in Brazil. Of the six NFS (respiratory exercises, muscular relaxation, Lumboscaral massage, shower washing, deambulation and pelvic swing), two were excluded post test (deambulation and pelvic swing) for not being accepted by parturients. The remaining NFS (respiratory exercises, muscular relaxation, limbosacral massage, and shower washing) which reached satisfactory acceptation and applicability rates were found to be effective in relieving pain of these parturients.

Bahasadri S., (2006) study conducted to evaluate the efficacy of subcutaneous sterile water injection in reduction labor pain compared with placebo. One hundred consecutive patients were enrolled in the double blind randomized controlled trial. During the first stage of labor with planned normal vaginal delivery, the intervention group (n=50) received .5 ml of sterile water injected subcutaneously and the control group (n=50) received normal saline as a placebo. Pain score was

measured before and 10 and 45 minutes after the injection, using faces rating scale. The two groups were not significantly different regarding maternal age and weight, gestational age and parity and degree of effacement. The median pain score was same prior to injection. Pain severity was reduced in both groups after injection. However the median pain score in the sterile water group was significantly lower than the placebo group 10 min, as well as 45 min after the injection. Administering one subcutaneous injection of sterile water in a painful point of a lumbosacral area is effective in reducing low back pain during labor.

Simkin P.P., (2002) conducted to assess the safety and efficacy of the best studies techniques, as well as to highlight areas in need of further research. Five comfort measures were selected for review, based on the criteria: they have been evaluated with prospective controlled studies and they required institutional support (eg, skills, policies, equipment). These five methods included continuous labor support, baths, touch and massage, maternal movement and positioning, and intradermal water blocks for pain relief. An electronic data bases and other sources identified studies for consideration. Critical evaluation of controlled studies of these five methods suggests that all five may be effective in reducing labor pain and improving other obstetrical outcomes, and they are safe when appropriately.

Brown S.T., (2000) conducted study to assess the effectiveness of pain relief measures are available to women during labor. The retrospective descriptive design study examined which non pharmacologic pain relief techniques laboring women use most often and

the effectiveness of the chosen techniques. Of the ten non pharmacological strategies rated by the sample (n=46), breathing techniques, relaxation, acupressure, and massage were found to be most effective.

Prasanna A. et.al., (2000) conducted a study at Kasthurba Medical College Hospital, Manipal, India to investigate the efficacy and safety of Transcutaneous Electrical Nerve Stimulation (TENS) on uterine activity, duration of labor, intrapartum fetal heart rate and APGAR score, in relieving the pain of parturition. Seventy gravid women with cephalic presentation in active labor, with no obstetric or medical complications were studied. Fifty women in GROUP I (Study group) received TENS stimulation and twenty women in GROUP II (Control group) received SHAM TENS (placebo). Fifty two percent (primi) and 64% (multi) gravida in Group I and 8% in the Group II experienced good to excellent relief of back pain. Eight percent in primi and 12% in multigravida had no relief in group I. Few had benefit in the second stage. The duration of labor was reduced by 120 minutes in multi and by 77 minutes in primi garvida in group I (P value <0.001). There was no change in the intrapartum fetal heart rate in both the groups and non required immediate resuscitation. TENS seems an effective, simple to administer method of pain relief with no side effects on the other or the child. It is effective in relieving the low back pain in 50%, but has no effect on the lower abdominal pain with the present stimulation technique.

Simkin P and Bolding A., (2004) conducted a study regarding non pharmacological approaches to relieve labor pain. In this study 13 non pharmacological measures used to relieve pain and reduce suffering in

labor. The non pharmacological measures like acupuncture, massage, TENS, continuous labor support, bath, intradermal water blocks, maternal movement and positioning. All the methods are concluded that effective and had an evidence of widespread satisfaction among a majority of users.

Labrecque M., (1999) conducted a study to compared the effectiveness of three non pharmacological approaches for relief of back pain. A total of 34 women suffering from low back pain during labor were randomly assigned to receive 1- 3 treatments. 1) Intracutaneous sterile water injections (ISW); 2) Transcutaneous Electrical Nerve stimulation (TENS) 3) standard care, including back message, and liberal mobilization. Women self evaluated both intensity and affective dimensions of pain using visual analogue scales. Women in the ISW group rated the intensity and unpleasantness of pain during experimental period significantly lower than women in the standard care group or the TENS group (P = 0.001 and P= .003). Similar results were observed for intensity (P=0.01) and unpleasantness (P=0.03) of pain adjust that before delivery. Mean pain intensity at 15 and 60 minutes after randomization was significantly reduced in the ISW group compared with the 2 other groups. There was no significant difference in the 3 groups in the level of control, and satisfaction with labor and delivery, but less women in the ISW group indicated that they would like to receive the same treatment for back pain during another delivery, but less women in the ISW group indicate that they like to receive the same treatment for back pain during another delivery. Conclusions: ISW are more effective than standard care and electrical nerve stimulation for relieving low back pain during labor.

C) STUDIES RELATED TO MASSAGE

Rekha M., (2010) conducted a study on effectiveness of ice massage (acupressure L14) for the reduction of labor pain among intranatal women in a selected hospital at Mangalore. The research design adopted for this study was pre test and post test control group experimental group design. The sample consisted of 40 intranatal mothers. Purposive sampling technique was used to select the samples. The subjects in control group did not receive any treatment whereas in experimental group he massage was started when contraction commenced and stopped when it ended and restarted when next contraction began. The findings with regard to effectiveness of ice massage revealed that was in the experimental group the mean post test pain score of the subjects was (2.1), which was significantly lower than the mean pre test pain score (5.0). The calculated value (11.588) was more than the table value (2.093, $P<0.05$) at 0.05 level of significance.

Taghinejad H. et.al., (2010) conducted a study to compare the effects of massage and music therapies on the severity of labor pain in the Ilam province of western Iran. Overall, 101 primigravida who were hospitalized for vaginal delivery were recruited and randomly stratified into two groups of either massage (n=51) or music (n=50) therapies. Pain was measured using the visual analogue scale. The result of the study said that mothers in the massage therapy group had a lower level of pain compared with those in the music therapy group (p=0.009). A significant difference was observed between the two groups in terms of pain severity after intervention (p=0.01). Agonizing, or most severe, labor pain was significantly relieved after massage therapy (p=0.001). In conclusion,

massage therapy was an effective method for reducing and relieving labor pain compared with music therapy and can be clinically recommended as an alternative, safe and affordable method of pain relief where using either pharmacological or non pharmacological methods are optional.

Jeyalakshmi S., (2008) conducted a study to assess the effectiveness of olive oil massage therapy upon the low back pain of prturient mother in the first stage of labor at Andhra Mahila sabha, Chennai. The sample size was 60 and they were selected at random, of which 30 were assigned to control group and 30 were assigned to experimental group by systematic sampling technique. Before therapy the assessment of low back pain with the help of neumerical pain rating scale and fetomaternal parameters with the help of simplified partogram was done for both experimental group and control group. The mothers in the control group do not use any pain reduction strategies. Whereas in the experimental group olive oil massage therapy was given 10-15 minutes for every one hour with 10 ml of olive oil. 15 mts after the therapy, the level of low back pain and fetomaternal parameters. Finally the level of satisfaction on massage therapy and knowledge on labor pain was assessed. The result of the study shows that in experimental group majority of the mothers, experienced severe pain (93.3%) before massage therapy and 100.0% of them experienced moderate pain after massage therapy. In control group the mean standard deviation of fetomaternal parameters such as mothers pulse rate 76.99(SD$\pm$5.204), uterine contraction duration 55.11(SD$\pm$9.894), systolic pressure 117.2(SD$\pm$7.546), and diastolic pressure 75.92(SD$\pm$4.687). The mean and standard deviation of uterine contraction frequency interval was high in before therapy 4.27(SD$\pm$0.705) compared to after therapy 3.82(SD$\pm$0.684).

In experimental group the mean and standard deviation of uterine contraction frequency interval before therapy was high 4.21(SD±0.647) compared after therapy 3.46(SD±0.501). Uterine contraction duration was low in before therapy 57.67(SD±6.045) compared to after therapy 71.83(SD±7.234). The results were statistically significant at 99.9% level of confidence. Majority of the mothers (90.0%) in the experimental group were adequately satisfied with olive oil massage therapy. The most of the parturient mothers (60%) had inadequate knowledge and (40%) of them had moderately adequate knowledge in the control group. Whereas in experimental group majority of them (90.0%) had moderately adequate knowledge and (3.3%) of them had adequate knowledge.

Mei-dan E et al (July 2008) studied the effectiveness of antenatal perineal massage in increasing the likelihood of delivering with the intact perineum the single blinded prospective controlled trial included 234 nulliparous women with singleton fetus. Women allocate to the study group were instructed to practice at 10 min perineal massage daily from the 34th weeks of gestation until delivery. Primary outcome measures included the episiotomy rate; and intact perineum; and the secondary outcome were related to specific tear locations. Conclusions: the practice of antenatal perineal massage shoed neither a protective nor a detrimental significant effect on the occurrence of perineal trauma.

Waters BL et al (2008) therapy was effective reveals the use of massage of the acupressure energy meridian point large intestine 4 (L14) to reduce labor pain during contractions. A one group pre test, post test design was chosen, which uses 100 mm Visual Analog Scales (VAS) and

the McGill Pain Questionnaire (MPQ) ranked numerically and verbally to measure pain levels; the pre test served as the control study participants were Hispanic and white Medicaid recipients who received prenatal care at a women's clinic staffed by certified nurse midwives and obstetricians. Participants noted pain reduction mean on the VAS of 28.22 mm on the left hand and 11.93 mm on the right hand. The post delivery ranked MPQ dropped from number 3 to number 2. The study result suggests that ice massage is a safe, non invasive, non pharmacological method of reducing labor pain.

Karami K. et.al., (2006) conducted a study to evaluate the effect of massage therapy on severity of labor pain. It is a clinical trial on sixty women undergoing delivery in selected hospitals of Tehran. The cases were primiparous women with single fetus in the age range of 20 to 34 with cervical dilatation of four centimeters and less and gestational age of 38-42 weeks. They were divided into massage therapy and control groups, randomly. Severity of pain was measured in visual analogue scale (VAS) and the questionnaires were filled at the cervical dilatation of 4,8 and 10 centimeters. Massage therapy was done using effleurage method as a type of Swedish massage technique. The results demonstrated that the mean of pain severity at the first stage of labor was significantly different between the experiment group and the control group, at the start of active phase ($p=0.009$), end of transitional phase ($p=0.014$) and end of first stage ($p=0.01$). Also, the duration of the first stage of labor was different in experimental group and control group. It is supposed that the results of the study would introduce massage therapy as a non pharmacological measure during delivery to reduce the labor pain and causes a decrease in

the number of caesarean sections, done to avoid fear and anxiety, induced by normal vaginal deliveries in young mothers.

Change M.Y. et. al., (2006) conducted a study to describe the characteristics of pain during labor with and a without massage. Sixty primiparas were randomly assigned to either a massage or control group and tested using the self supported Short Form McGill Pain questionnaire (SF-MPQ) at three phases of cervical dilatation: phase 1 dilatation (3-4 cm), phase 2 dilatation (5-7cm), and phase 3 dilatation (8-10cm). The massage group received massage and standard nursing care, whereas control group received standard nursing care only. The result of the study was in both groups, as cervical dilatation increased, there were significant increase in pain intensity as measured by SF-MPQ; massage lessened pain intensity at phase 1 and phase 2, but there were no significant differences between the groups at phase; the most frequent selected 5 sensory words chosen by both groups were similar 1 and 2- a) sore b)sharp c) heavy d) throbbing and d) cramping, while of the 4 affective classes, "fearful and "Tring-exhausting were the most used by participants to describe the affective dimension. The result of the study was the massage can decrease the labor pain during 1st and 2nd phase of cervical dilatation during labor.

Field T. et.al., (2004) who had conducted a study regarding massage therapy effects on depressed pregnant women. Eighty-four pregnant women recruited during the second trimester of pregnancy and randomly assigned to a massage group, a progressive muscle relaxation group or a control group that received standard prenatal care alone. These groups were compared to each other and to a non depressed group at the end of pregnancy. The massage group received two 20 minutes therapy sessions

by their significant others each weeks for sixteen weeks of pregnancy, starting during the second trimester. The relaxation group provided themselves with the progressive muscle relaxation sessions on the same time schedule. Immediately after the massage therapy sessions on the first and last days of the 16- week period the women reported lower levels of anxiety and depressed mood and less leg and back pain. By the end of the study the massage group had higher dopamine and serotonine levels and lower levels of cortisol and norepinephrine. These changes may have contributed to the reduced fetal activity and better neonatal outcome for the massage group. The data suggest that depressed pregnant women and their offspring can benefit from massage therapy.

Mei-Yueh Change (2002) conducted a study on effectiveness of massage on pain and anxiety during labor; a randomized controlled trial. Sixty primiparas women expected to have a normal child birth at a regional hospital in southern Taiwan were randomly assigned to either the experimental (n=30) or the control (n=30) group. The experimental group received massage intervention whereas the control group did not. The nurse- rated present behavioral intensity (PBI) was used as a measure of labor pain. Anxiety was measured by z Visual Analogue Scale for Anxiety (VASA). The intensity of pain and anxiety between the two groups were compared in the latent phase (cervical dilatation 3-4 cm), active phase (5-7cm) and transitional phase (8-10cm). In both groups, there was a relatively steady increase in pain intensity and anxiety level as labor progressed. Twenty six of 30 (87%_ experimental group subjects reported that the massage was helpful, providing pain relief and psychological support during labor.

CHAPTER – III

METHODOLOGY

This chapter includes research approach, research design, setting of the study, population, sample size, sampling criteria for sample collection, description of the tool, scoring procedure, validity, pilot study, method of data collection and plan for data analysis.

RESEARCH APPROACH

To accomplish the objective of the study, an evaluative approach was considered most appropriate.

RESEARCH DESIGN

The research design selected for this study was quasi experimental design (Non equivalent pretest post test control group design).

GROUPS	PRE ASSESSMENT	INTERVENTION	POST ASSESSMENT
Experimental group	O_1	X	O_2
Control group	O_3	-	O_4

The symbols used

Experimental Group: Primi mothers those who are given olive oil back massage during first stage of labor

Control Group: Primi mothers those who were not given olive oil back massage during first stage of labor

O_1 : Pre assessment of level of low back pain and fetomaternal parameters

X : Application of olive oil back massage.

O_2 : Post assessment of level of low back pain, selected fetomaternal parameters and determine the level of satisfaction

O_3 : Pre assessment of level of low back pain and fetomaternal parameters

O_4 : Post assessment of level of low back pain, and selected fetomaternal parameters

SETTING OF THE STUDY

The study was conducted in Kasthurba Memorial hospital, Dindigul. About 1000 antenatal mothers visit out patient department monthly. On an average 350-400 deliveries are conducted in a month. Among which approximately 250 normal deliveries and 100 mothers undergo caesarean section. Approximately 150 primi mothers and 250 multi mothers deliver in a month.

POPULATION

The population of the study was primi mothers.

SAMPLE

Primi mothers in first stage of labor admitted in labor ward at Kasthurba Memorial Hospital, Dindigul.

CRITERIA FOR SELECTION OF SAMPLE

Inclusion criteria

- Primi mothers who are in active first stage of labor
- Primi mothers who are willing to participate

Exclusion criteria

- Primi mothers who have pregnancy induced hypertension, premature rupture of membrane, gestational diabetes mellitus and cephalo pelvic disproportion, multiple pregnancies, abnormal presentations.

SAMPLE SIZE

The sample size comprised of 60 primi mothers in active first stage of labor. Out of which 30 samples belong to experimental group and 30 belong to control group.

SAMPLING TECHNIQUE

Purposive sampling technique was used to select the samples. Primi mother those who met the inclusion criteria were selected for the study. Samples for experimental group and control group were selected on alternative days.

DESCRIPTION OF THE TOOL

Part I

It consists of demographic data like the age, education, residence, type of family, income, and religion.

Part II

Visual Analogue Scale was used to assess the level of low back pain during active first stage of labor. The visual analogue scale has 0-10 scores for self assessment.

Part III

Assess the selected bio-physiological fetomaternal parameters like fetal heart rate, uterine contraction – duration & frequency, systolic and diastolic blood pressure assessed by using sphygmomanometer and foetoscope.

Part IV

Rating scale was used to assess the level of satisfaction after intervention.

SCORING PROCEDURE

Part I

Visual analogue scale gives 0 score if no pain, score 1-3 if mild pain, 4-6 score if moderate pain, 7-9 score if severe pain, 10 score if worst pain.

S. No	Level of pain	Score
1.	No pain	0
2.	Mild pain	1-3
3.	Moderate pain	4-6
4.	Severe pain	7-9
5.	Worst pain possible	10

Part II

Fetmaternal Parameters are graded as below:

S. NO	PARAMETERS	NORMAL	BELOW NORMAL	ABOVE NORMAL
1.	Fetal Heart Rate	110-150 beats/ minute	Below 110 beats/ minute	Above 150 beats/ minute
2.	Uterine contractions- Duration	30-70 Sec	Below 30 sec	Above 70 sec
3.	Uterine contractions – Frequency	1-5 minutes	Below 1 min	Above 5 min
4.	Systolic Blood Pressure	110-130 mmHg	Below 110 mmHg	Above 150 mmHg
5.	Diastolic Blood Pressure	70-90 mmHg	Below 70 mmHg	Above 90 mmHg

SECTION IV

Rating scale consists of 10 statements to assess the post test level of satisfaction on olive oil back massage among primi mothers in experimental group. Total score is 40.

Response	Positive score	Negative score
Strongly disagree	0	4
Disagree	1	3
Neither disagree nor agree	2	2
Agree	3	1
Strongly agree	4	0

Rating Scale on Satisfaction is interrupted as follows

Level of satisfaction	Score	%
Dissatisfied	0-13	0-33%
Moderately satisfied	14-26	34-66%
Adequately satisfied	27-40	67-100%

VALIDITY AND RELIABILITY OF THE TOOL

VALIDITY

The validity of the tool was established in consultation with 4 nursing experts and one obstetrician. There was no change made in the tool. The accuracy of the instrument was assessed by interrater method by using Karl Pearson's formula (r=0.9).

RELIABILITIY

The reliability of the rating scale was established by using inter rater reliability method and Karl Pearson coefficient formula was used to find the consistency of the tool and found to be reliable (r-0.9). The accuracy of the instrument was assessed by using Karl Pearson's formula (r=0.9).

PILOT STUDY

The pilot study was conducted in Nivetha Hospital, Dharapuram for a period of 7 days. The investigator obtained written permission from the medical officer and oral permission from each participant prior to the study. The purpose of the study was explained to the subjects prior to the study. Six primi mothers who met the inclusion criteria were selected by using purposive sampling method. one to two samples were taken per day. Samples for control and experimental group were selected on alternative days. Pretest was done for both experimental group and control

group by using visual analogue scale for level of low back pain and fetmaternal parameters grading was used to assess the fetomaternal parameters. Three primi mothers assigned to experimental group were given olive oil back massage with 10 ml of olive oil for three times in every one hour during the first stage of labor. Massage was done for 10 minutes. 15 minutes after the massage the post test was done three times every one hour. For control group 3 mothers were given the care as usual hospital routine, and then the post test was done after one hour of pretest. In experimental group the mean post test (5.7$\pm$ 2.09) level of low back pain was lower than the mean pretest level of low back pain (7$\pm$ 0.774) the paired't' value was 3.47 (table value = 2.920) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between pretest and post test. In the control group, the post test mean score of level of low back pain 7.3(SD$\pm$0.84) is increased when compared to the pretest mean score 6.6(SD$\pm$1.7), the paired 't' value was 0.55 (table value = 2.920) at 0.05 level of significance shows that there is no significance difference in the level of low back pain between pretest and post test. During post test, the mean score of level of low back pain in experimental group 5.7(SD$\pm$ 0.741) was higher than the mean score of level of low back pain in control group 7.3(SD$\pm$ 0.842), the independent 't' calculated value was 3.806 (table value = 2.015) at 0.05 level of significance shows that there is a significance difference in the level of low back pain between experimental group and control group. There is no significant difference in the fetomaternal parameters between experimental group and control group. The primi mothers 3(100%) in the experimental group have adequately satisfied. Result of the pilot study found that it is feasible and practicable to conduct the main study.

DATA COLLECTION PROCEDURE

The main study was conducted in Kasthurbha memorial hospital, Gandhigram, Data collection was done for a period of five weeks. The investigator obtained written permission from the chief medical officer of Kasthurba Memorial Hospital. The oral permission was obtained from each participant prior to the study. The purposive sampling technique was used to select 60 samples out of which 30 in experimental groups and 30 in control group. The samples for control and experimental group were selected on alternative days. For experimental group 1-2 samples were selected per day.

The pretest was assessed for both experimental group and control group by using visual analogue scale for low back pain and fetomaternal grade to assess the fetomaternal parameters. The olive oil back massage was given for 10 minutes in every one hour with 10 ml of olive oil for experimental group. This was followed for three times, in three hours. The post test was done after 15 minutes of olive oil back massage by using visual analogue scale and fetomaternal parameters grade for three times after each olive oil back massage. Primi mothers in control group were given routine hospital care, and then the post test was done after one hour of pre test. Finally the post test level of satisfaction on olive oil back massage was assessed by using rating scale among experimental group. The collected data were analyzed and tabulated, using descriptive and inferential statistics.

PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics will be used for data analysis.

Sl. No.	Data Analysis	Method	Purpose
1.	Descriptive statistics	Frequency, percentage	To assess the pre test and post test level of low back pain and fetomaternal parameters in experimental group
			To assess the pretest and post test level of low back pain and fetomaternal parameters in control group
			To determine the level of satisfaction on olive oil back massage among experimental group primi mothers
2.	Inferential statistics	Mean, Standard deviation, pairedt't' test	To compare the pre test and post test level of low back pain and fetomaternal parameters in experimental group
			To compare the pre test and post test level of low back pain and fetomaternal parameters in control group

Sl. No	Data Analysis	Method	Purpose
		Mean, Standard deviation, Independent 't' test	To compare the post test level of low back pain and fetomaternal parameters between experimental group and control group
		'Chi square' test	To find the association between the post test level of low back pain in experimental group with their selected demographic variables.

PROTECTING THE HUMAN SUBJECTS

The research proposal was approved by dissertation committee prior to conduct pilot study and main study. The written permission was obtained from the nursing superintendent and chief medical officer of Kasthurba hospital, Dindigul. Oral consent of each subject was obtained before starting the data collection. Assurance was given to them that confidentiality would be maintained.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretations of the data collected to evaluate the effectiveness of olive oil massage on Low back pain and selected Fetomaternal parameters in primi mothers' during first stage of labor who are admitted in labor room.

Data were collected from 60 primi mothers during labor process, were 30 mothers under experimental group and 30 mothers under control group in Kasthurba Memorial Hospital, Dindigul by using statistical measurements. The data obtained were analyzed and presented under the following headings.

ORGANIZATION OF DATA

The data has been tabulated and organized as follows

SECTION A: Distribution of demographic variables

SECTION B: Assess the pre test and post test level of low back pain and fetomaternal parameters in experimental group

SECTION C: Assess the pre test and post test level of low back pain and fetomaternal parameters in control group

SECTION D: Compare the pre test and post test level of low back pain and fetomaternal parameters in experimental group

SECTION E: Compare the pre test and post test level of low back pain and fetomaternal parameters in control group

SECTION F: Compare the post test level of low back pain and fetomaternal parameters between experimental group and control group

SECTION G: Determine the level of satisfaction on olive oil back massage among experimental group primi mothers

SECTION H: Association between the levels of low back pain in experimental group with their selected demographic variables

SECTION A: DISTRIBUTION OF DEMOGRAPHIC VARIABLES

TABLE 1 : Frequency and percentage distribution of demographic variables in experimental group and control group

$n_1 = 30$, $n_2 = 30$

S. No	*Demographic variables*	*Experimental Group (n_1=30)*		*Control group(n_2=30)*	
		F	*%*	*F*	*%*
1.	**Age (in Years)**				
a)	18-25	24	80	21	70
b)	26-30	6	20	9	30
c)	31=35	-	-	-	-
2.	**Education**				
a)	Illiterate	7	23	5	17
b)	Primary	5	17	13	43
c)	Higher Secondary	12	40	9	30
d)	Graduate	6	20	3	10
3.	**Residence**				
a)	Urban	13	43	10	33
b)	Rural	17	57	20	67
4.	**Type of family**				
a)	Nuclear	17	57	16	53
b)	Joint	13	43	14	47
5.	**Income**				
a)	Below Rs. 3000	2	7	6	20
b)	Rs 3000- Rs 5000	12	40	14	47
c)	Above Rs 5000	16	53	10	33

S. No	*Demographic variables*	*Experimental Group (n_1=30)*		*Control Group(n_2=30)*	
		F	*%*	*F*	*%*
6.	**Religion**				
a)	Hindu	21	67	26	87
b)	Muslim	2	10	1	3
c)	Christian	7	23	3	10

Table 1 shows that the demographic variables among primi mothers in both experimental group and control group such as age, education, residence, type of family, income and religion

Regarding age in experimental group, majority of primi mothers 24(80%) belonged to the age group of 18-25 years and least 6(20%) belonged to age group of 26-30 Years. In control group majority of mothers 21(70%) belonged to the age group of 18-25 years and least 9(30%) belonged to the age group of 26-30 years.

With regard to education in experimental group, majority of the mothers 12(40%) had Higher secondary education, 7(23%) were illiterate, 6(20%) were graduate and least 5(17%) had only primary school education. In control group majority of mothers 13(43%) had primary education, 9(30%) had Higher secondary education, 5(17%) were illiterate and least 3(10%) were graduate.

Regarding the residence in experimental group majority of the mother 17(57%) were from rural area and least 13(43%) were from urban

area. In control group majority of the mother 20(67%) were in rural area, and least (33%) were in urban area.

Regarding type of family, in experimental group majority of the primi mothers 17(57%) were from nuclear family and least 13(43%) were from joint family. In control group majority of the primi mothers 16(53%) were from nuclear family and least 14(47%) were from joint family.

In regard to income, in experimental group majority of mothers 16(53%) monthly income were above Rs 5000, 12(40%) of mothers it was between Rs.3000- Rs. 5000, and least 2 (7%) were below 3000. In control group majority of mothers 14(47%) were having monthly income of Rs.3000- Rs. 5000, 10(33%) of mothers it was above Rs 5000, and least 6(20%) were in below Rs 3000.

With reference to religion both experimental group and control group majority of primi mothers belonged to Hindu religion. In experimental group 21(67%) and in control group 26(87%) were from Hindu. Less number of primi mothers 7(23%) and 2(10%) were Christian and muslims in the experimental group whereas 3(10%) and 1(3%) of primi mothers were Christian and muslims in the control group.

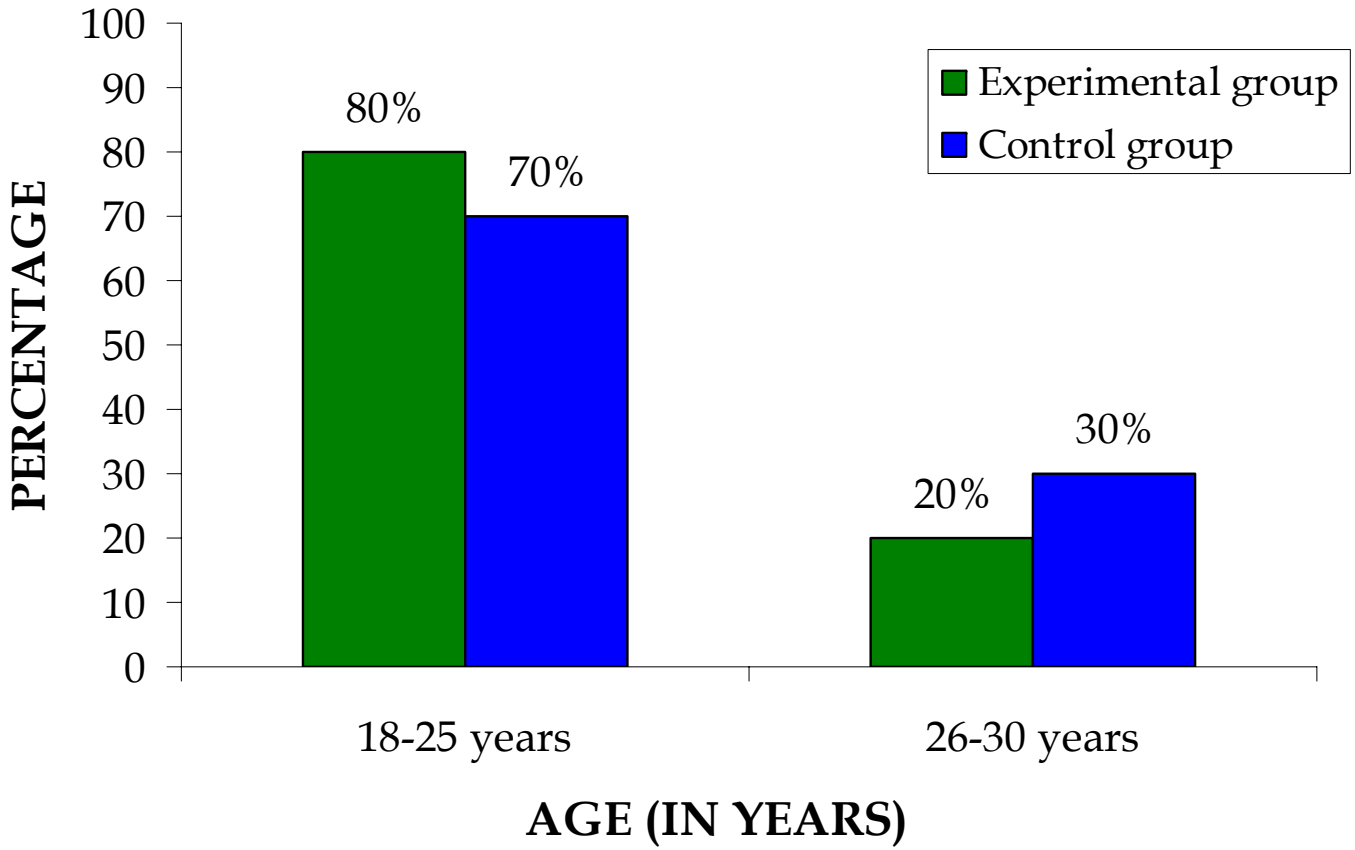


Fig 2 : Percentage distribution of primi mothers according to their Age in experimental group and control group

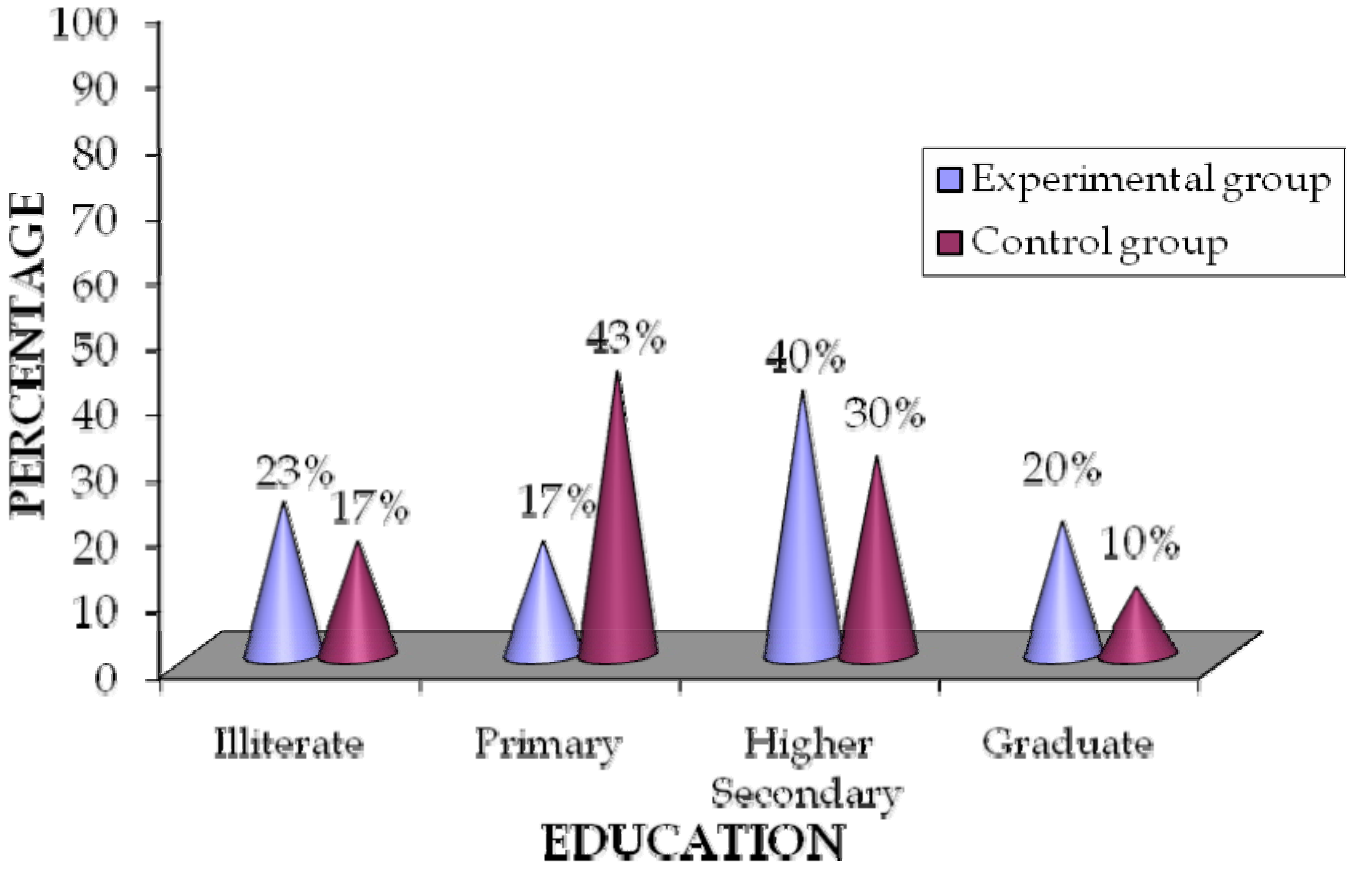


Fig 3 : Percentage distribution of primi mothers according to their Education in experimental group and control group

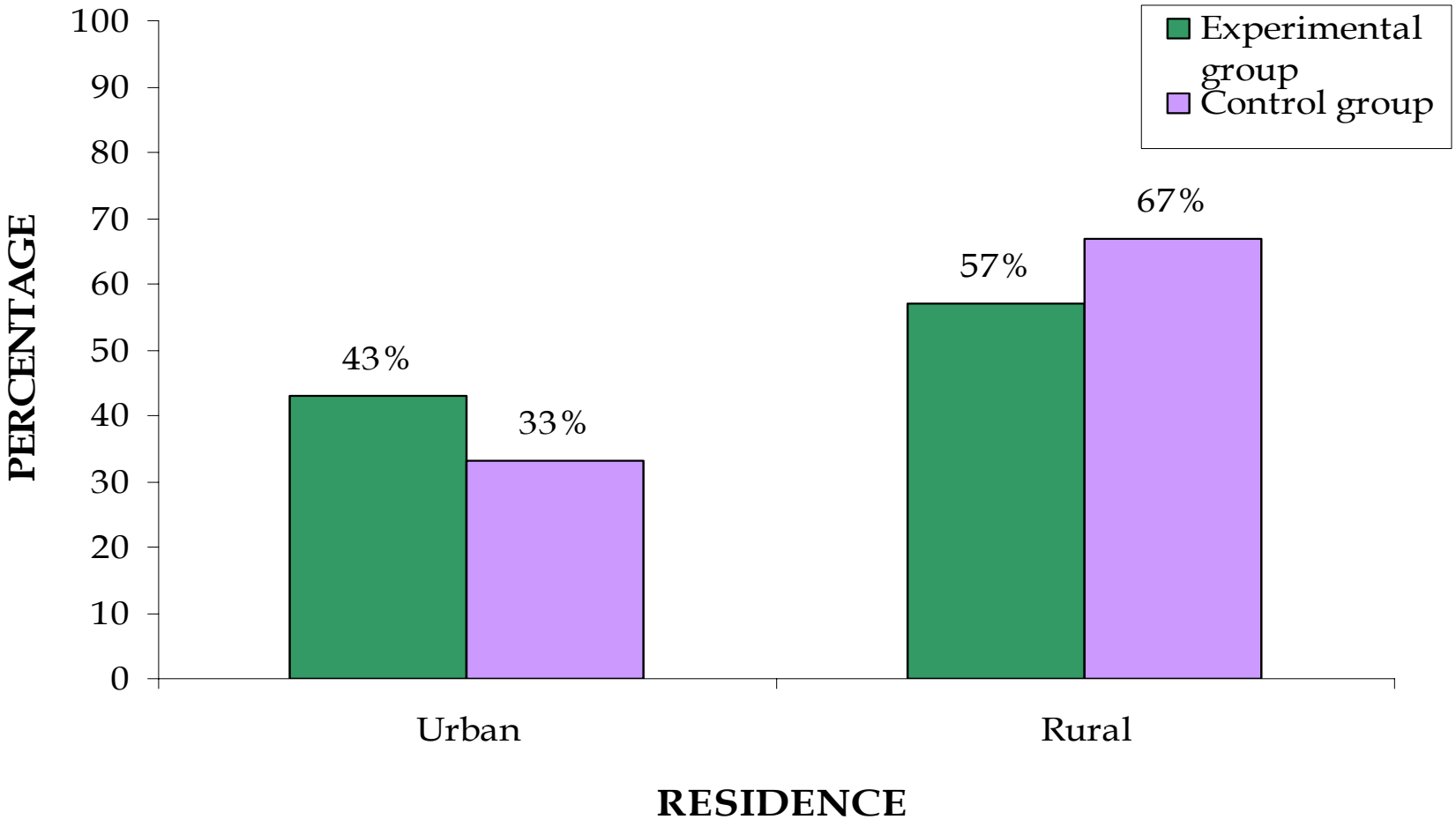


Fig 4: Percentage distribution of primi mothers according to their Residence in experimental group and control group

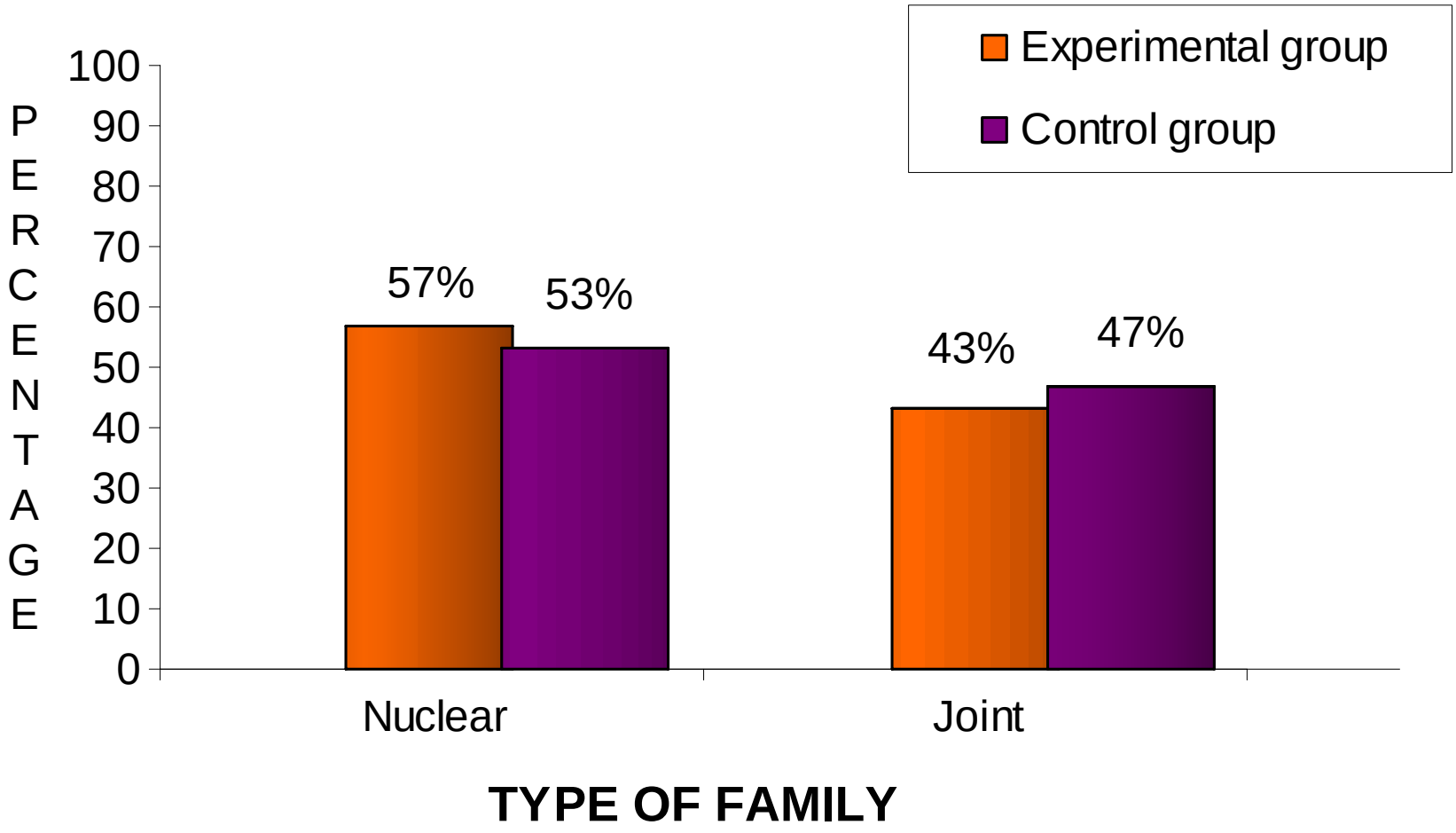


Fig 5: Percentage distribution of primi mothers according to their type family in experimental group and control group

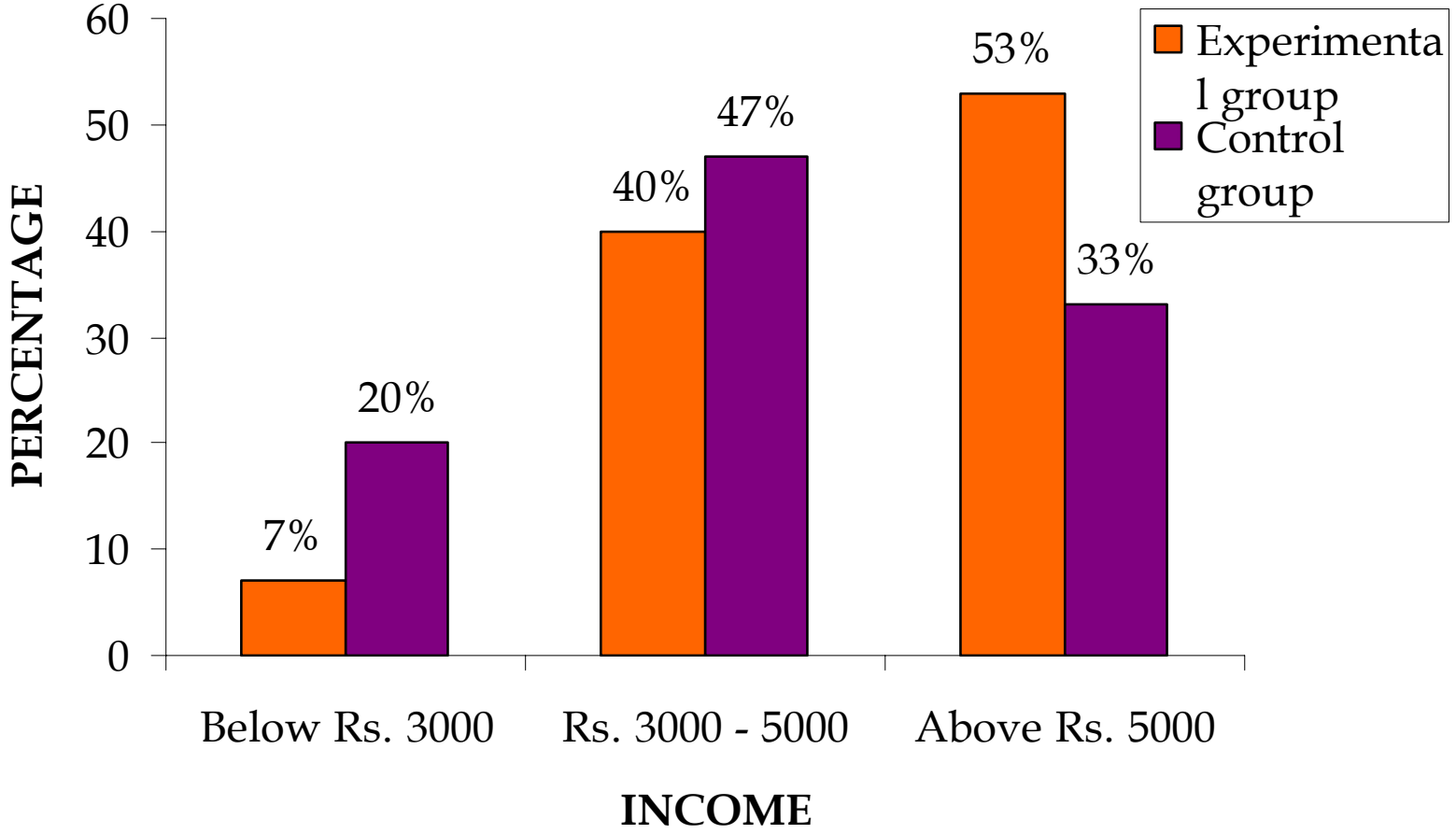


Fig 6: Percentage distribution of primi mothers according to their Income in experimental group and control group

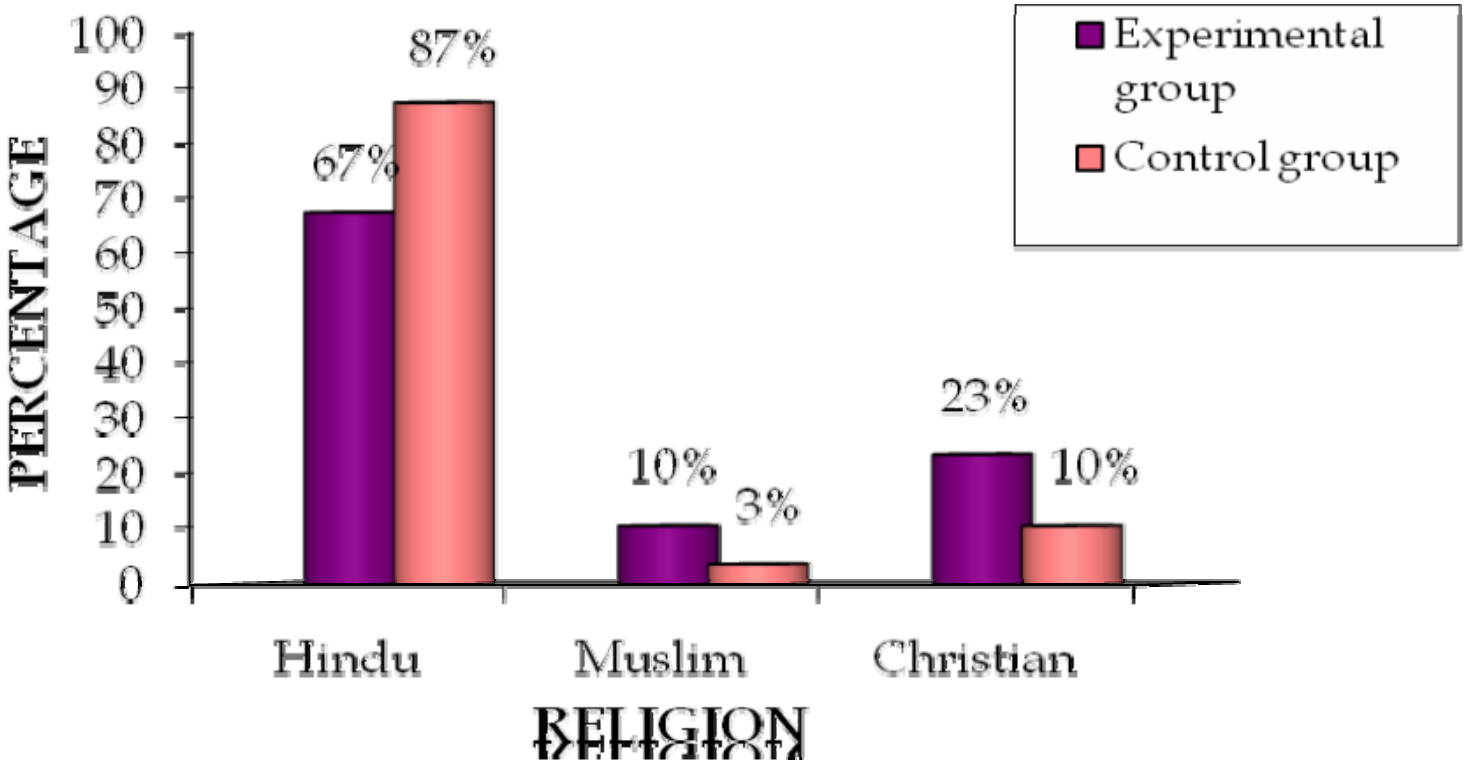


Fig 7: Percentage distribution of primi mothers according to their Religion in experimental group and control group.

SECTION B: ASSESS THE PRE TEST AND POST TEST LEVEL OF LOW BACK PAIN AND FETOMATERNAL PARAMETERS IN EXPERIMENTAL GROUP

TABLE 2 : Frequency and percentage distribution of pre test and post test level of low back pain in experimental group

n = 30

Category of pain	Pretest		Post Test	
	F	%	F	%
No pain (0)	-	-	-	-
Mild Pain (1-3)	-	-	-	-
Moderate Pain (4-6)	13	43%	24	80
Severe Pain (7-9)	17	57%	6	20
Worst pain (10)	-	-	-	-

Frequency and percentage distribution of pre test and post test level of low back pain in experimental group depicts that, during pre test majority of primi mothers 17(57%) had severe level of low back pain and 13(43%) had moderate level of low back pain whereas in post test majority of 24(80%) primi mothers had moderate level of low back pain and 6(20%) had severe level of low back pain.

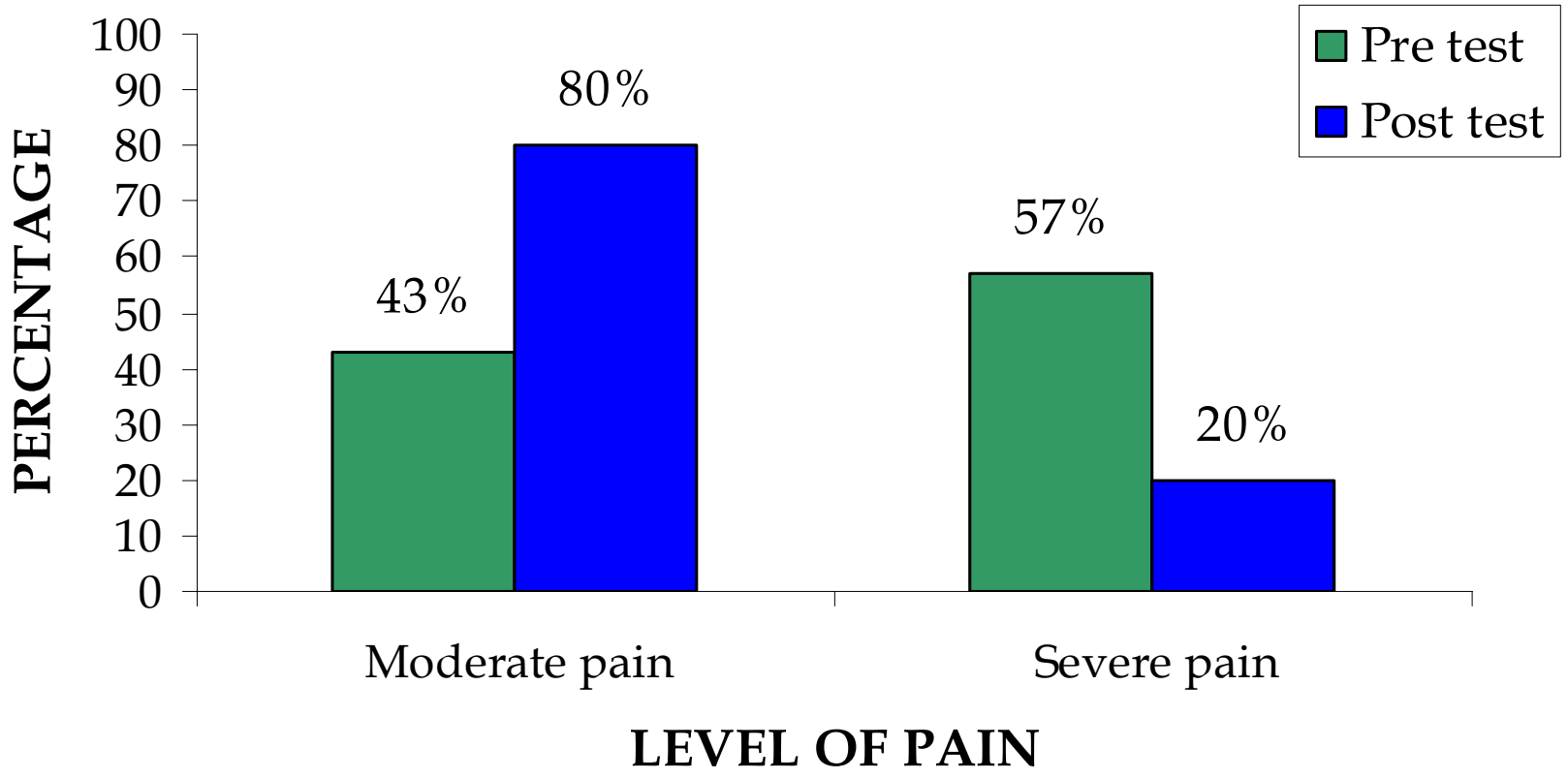


Fig 8: Percentage distribution of pretest level and post test level of low back pain of primi mothers in experimental group

TABLE 3: Frequency and percentage distribution of pre test and post test scores of fetomatenal parameters in experimental group

n = 30

Fetomaternal Parameters	Pretest						Post test					
	Normal		Below Normal		Above Normal		Normal		Below Normal		Above Normal	
	F	%	F	%	F	%	F	%	F	%	F	%
Fetal heart rate	30	100	-	-	-	-	30	100	-	-	-	-
Uterine contraction Duration	30	100	-	-	-	-	23	77	-	-	7	23
Uterine contraction frequency	30	100	-	-	-	-	30	100	-	-	-	-
Systolic blood pressure	30	100	-	-	-	-	30	100	-	-	-	-
Diastolic blood pressure	30	100	-	-	-	-	30	100	-	-	-	-

Frequency and percentage distribution of pre test and post test level of fetomaternal parameters in experimental group depicts that, during pretest and post test all the samples 30(100%) fetal heart rate range were in normal limits. During pretest all the samples 30(100%) uterine contraction duration were in normal range whereas in post test majority 23(77%) of primi mothers were in normal range; all the mothers 30(100%) Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.

SECTION C: ASSESS THE PRE TEST AND POST TEST LEVEL OF LOW BACK PAIN AND FETOMATERNAL PARAMETERS IN CONTROL GROUP

TABLE 4: Frequency and percentage distribution of pretest and post test level of low back pain in control group

n = 30

Category of pain	Pretest		Post Test	
	F	%	F	%
No pain (0)	-	-	-	-
Mild Pain (1-3)	-	-	-	-
Moderate Pain (4-6)	20	67%	11	37%
Severe Pain (7-9)	10	33%	19	63%
Worst pain (10)	-	-	-	-

Frequency and percentage distribution of pre test and post test level of low back pain in control group depicts that, during pre test majority of primi mothers 20(67%) had moderate level of low back pain and 10(33%) had moderate level of low back pain, whereas in post test majority of 19(63%) primi mothers had severe level of low back pain and 11(37%) had moderate level of low back pain.

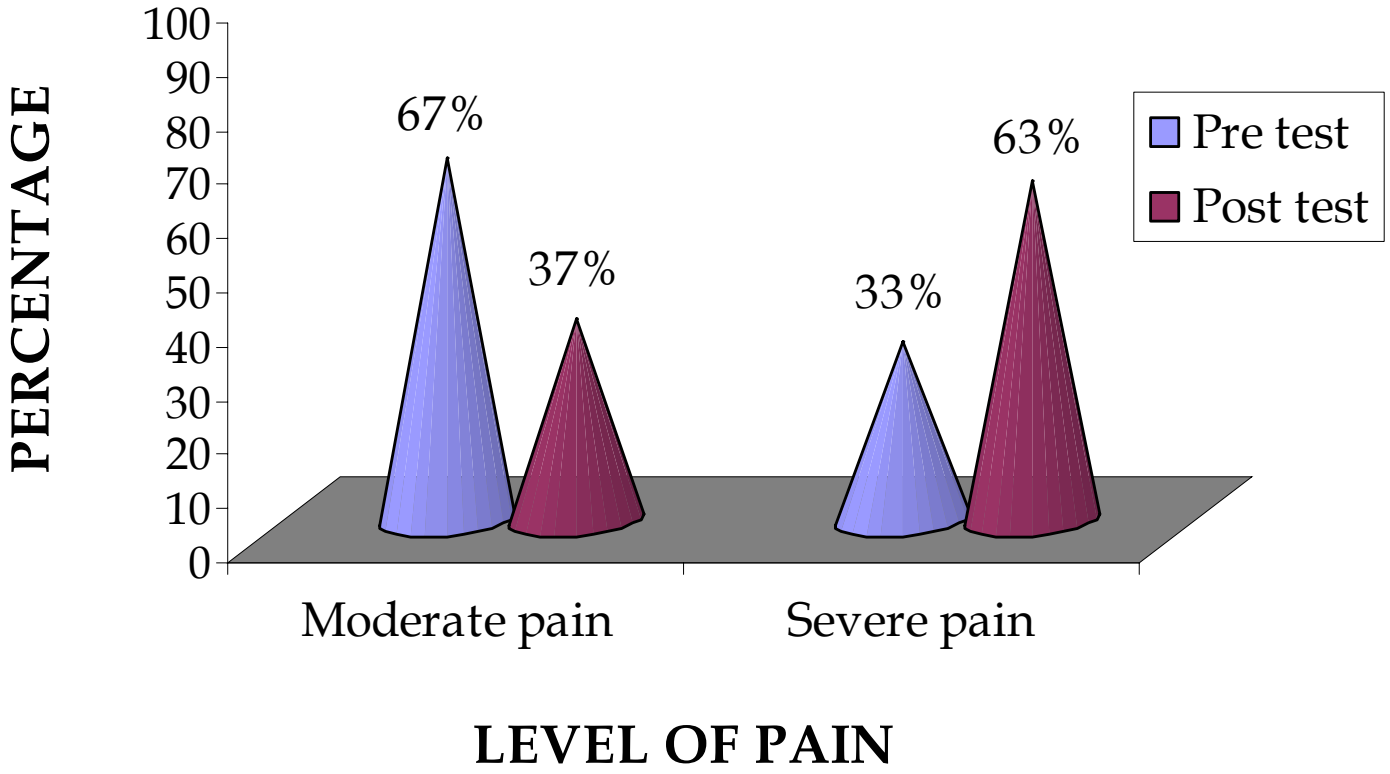


Fig9: Frequency and percentage distribution of pre test and post test level of low back pain in control group

TABLE 5: Frequency and percentage distribution of post test score of fetomaternal parameters in control group.

n = 30

Fetomaternal Parameters	Pretest						Post test					
	Normal		Below Normal		Above Normal		Normal		Below Normal		Above Normal	
	F	%	F	%	F	%	F	%	F	%	F	%
Fetal heart rate	30	100	-	-	-	-	30	100	-	-	-	-
Uterine contraction Duration	29	97	-	-	1	3	29	97	-	-	1	3
Uterine contraction frequency	30	100	-	-	-	-	30	100	-	-	-	-
Systolic blood pressure	30	100	-	-	-	-	30	100	-	-	-	-
Diastolic blood pressure	30	100	-	-	-	-	30	100	-	-	-	-

Frequency and percentage distribution of pre test and post test level of fetomaternal parameters in control group depicts that, during pretest and post test all the samples 30(100%) fetal heart rate range were in normal limits. Majority of primi mothers 29(97%) Uterine contraction duration ranges were in normal limits both in pre test and post test; all the mothers 30(100%) Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.

SECTION D: COMPARE THE PRE TEST AND POST TEST LEVEL OF LOW BACK PAIN AND FETOMATERNAL PARAMETERS IN EXPERIMENTAL GROUP

TABLE 6 : Comparison of Mean, standard deviation and paired't' value of pre test and post test level of low back pain in experimental group

n= 30

Test	Mean	SD	Mean Difference	Paired 't' value	Table value
Pre test	7	1	1	12.914*	1.699
Post test	6	0.547			

df = 29 * - Significant P< 0.05

The above table shows that, the post test mean score of level of low back pain 6(SD±0.547) was lower than the pretest mean score 7(SD±1), the paired't' value was 12.914 (table value=1.699) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between the pretest and post test in experimental group.

TABLE 7: Mean, standard deviation and paired't' value of pre test and post test score of fetomaternal parameters in experimental group. n=30

Fetomaternal Parametes	Pre test		Post test		Mean difference	Paired 't' Value	Table value
	Mean	SD	Mean	SD			
Fetal heart rate	136	3.613	135.7	3.574	0.3	1.60	1.699
Uterine contraction duration	54.03	5.542	63	8.700	8.97	5.150*	
Uterine contraction frequency	3.819	0.629	2.719	0.496	1.1	8.909*	
Systolic blood pressure	116	7.113	116.14	6.769	0.14	1.12	
Diastolic blood pressure	76.3	6.950	76.07	6.042	0.23	0.424	

df = 29 * - Significant P< 0.05

The above table shows that the mean and standard deviation of fetomaternal parameters in experimental group. The mean score of pretest and post test level of fetal heart rate were 136(SD±3.613) and 135.7(SD±3.547), the paired't' value was 1.60 (table value = 1.699) at $p<0.05$ level of significance shows that there is no significant difference in the fetal heart rate between pretest and post test. The post test mean score of 63(SD±8.700) uterine contraction duration was higher than the pretest mean score 54.03(SD±5.542), the paired't' value was 5.150 (table value = 1.699) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction duration between pretest and post

test. The post test mean score 2.719(SD±0.496) of uterine contraction frequency was lower than the pre test mean score 3.819(SD±0.629), the paired't' value was 8.909 (table value = 1.699) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction frequency between pretest and post test. The mean score of pretest and post test level of systolic blood pressure were 166(SD±7.113) and 116.14(SD±6.769), the paired't' value was 1.12 (table value = 1.699) which was not significant at 0.05 level. The mean score of pretest and post test level of diastolic blood pressure were 76.3(SD±6.950) and 76.07(SD±6.042), the paired't' value was 1.12 (table value = 1.699) which was not significant at 0.05 level.

SECTION E: **TO COMPARE THE PRE TEST AND POST TEST LEVEL OF LOW BACK PAIN AND FETOMATERNAL PARAMETERS IN CONTROL GROUP.**

TABLE 8: Comparison of mean, standard deviation and paired't' value of pre test and post test level of low back pain in control group.

n= 30

Test	Mean	SD	Mean Difference	Paired 't' value	Table value
Pre test	6	0.793	1	5.294*	1.699
Post test	7	1.095			

df = 29 * - Significant P< 0.05

The above table shows that, the post test mean score of level of low back pain 7(SD±1.095) was higher than the pretest mean score 6(SD±0.0.793), the paired't' value was 5.294 (table value=1.699) at p<0.05 level of significance shows that there is a significant difference in the level of low back pain between the pretest and post test in control group.

TABLE 9: Mean, standard deviation and paired't' value of pre test and post test score of fetomaternal parameters in control group.

n=30

Fetomaternal Parameters	Pre test		Post test		Mean difference	Paired 't' value	Table value
	Mean	SD	Mean	SD			
Fetal heart rate	135.9	3.57	135.53	3.53	0.4	0.20	1.699
Uterine contraction duration	52.56	6.26	57.50	7.82	4.9	5.802*	
Uterine contraction frequency	2.43	0.65	2.39	0.09	0.04	3.53*	
Systolic blood pressure	114.6	6.30	115.3	6.77	0.6	1.40	
Diastolic blood pressure	74	5.53	75.2	6.92	1.2	1.35	

df -29 * - Significant P<0.05

The above table shows that the mean and standard deviation of fetomaternal parameters in control group. The mean score of pretest and post test level of fetal heart rate were 135.9(SD±3.57) and 135.53(SD±3.53), the paired't' value was 0.20 (table value = 1.699) which was not significant at 0.05 level. The post test mean score of uterine contraction duration 57.50(SD±7.82) was higher than the pretest mean score 52.56(SD±6.26), the paired 't' value was 5.802 (table value = 1.699) at p<0.05 level of significance shows that there is a significant difference in the uterine contraction duration between pretest and post test. The post test mean

score of uterine contraction frequency 2.39(SD±0.09) was lower than the pre test mean score 2.43(SD±0.65), the paired't' value was 3.53 (table value = 1.699) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction frequency between pretest and post test. The mean score of pretest and post test level of systolic blood pressure were 114.6(SD±7.6.30) and 115.3(SD±6.77), the paired't' value was 1.40 (table value = 1.699) which was not significant at 0.05 level. The mean score of pretest and post test level of diastolic blood pressure were 74(SD±5.53) and 75.2(SD±6.92), the paired't' value was 1.35 (table value = 1.699) which was not significant at 0.05 level.

SECTION F: COMPARE THE POST TEST LEVEL OF LOW BACK PAIN AND FETOMATERNAL PARAMETERS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP

TABLE 10: comparison of mean, standard deviation and Independent 't' value of post test level of low back pain between experimental group and control group

n_1=30; n_2=30

Group	Mean	SD	Mean Difference	Independent 't' value	Table value
Experimental group	6	0.547	1	4.310*	1.645
Control group	7	1.095			

df = 58 * - Significant P< 0.05

The mean post test level of low back pain in the experimental group (6+0.547) was significantly lower than the mean post test level of low back pain in the control group 7(SD±1.095). Independent 't' value was 4.310 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between experimental group and control group.

TABLE 11: Comparison of mean, standard deviation and Independent 't' value of post test score of fetomaternal parameters between experimental group and control group

n_1=30; n_2=30

Fetomaternal Parameters	Experimental group		Control group		Mean difference	Independent 't' value	Table Value
	Mean	SD	Mean	SD			
Fetal heart rate	135.7	3.574	135.53	3.539	0.17	0.350	1.645
Uterine contraction duration	63	8.700	57.50	7.823	5.5	7.422	
Uterine contraction frequency	2.719	0.496	2.039	0.094	0.680	4.963	
Systolic pressure	116.14	6.769	115.3	6.775	0.84	1.253	
Diastolic pressure	76.07	6.042	75.2	6.928	0.87	1.326	

df = 58 * - Significant P< 0.05

The above table shows that the post test mean score of fetal heart rate was 135.7(SD±3.574) in experimental group and 135.53(SD±3.539) was in control group respectively. The independent 't' value was 0.350 (table value = 1.645) at p<0.05 level of significance shows that there is no

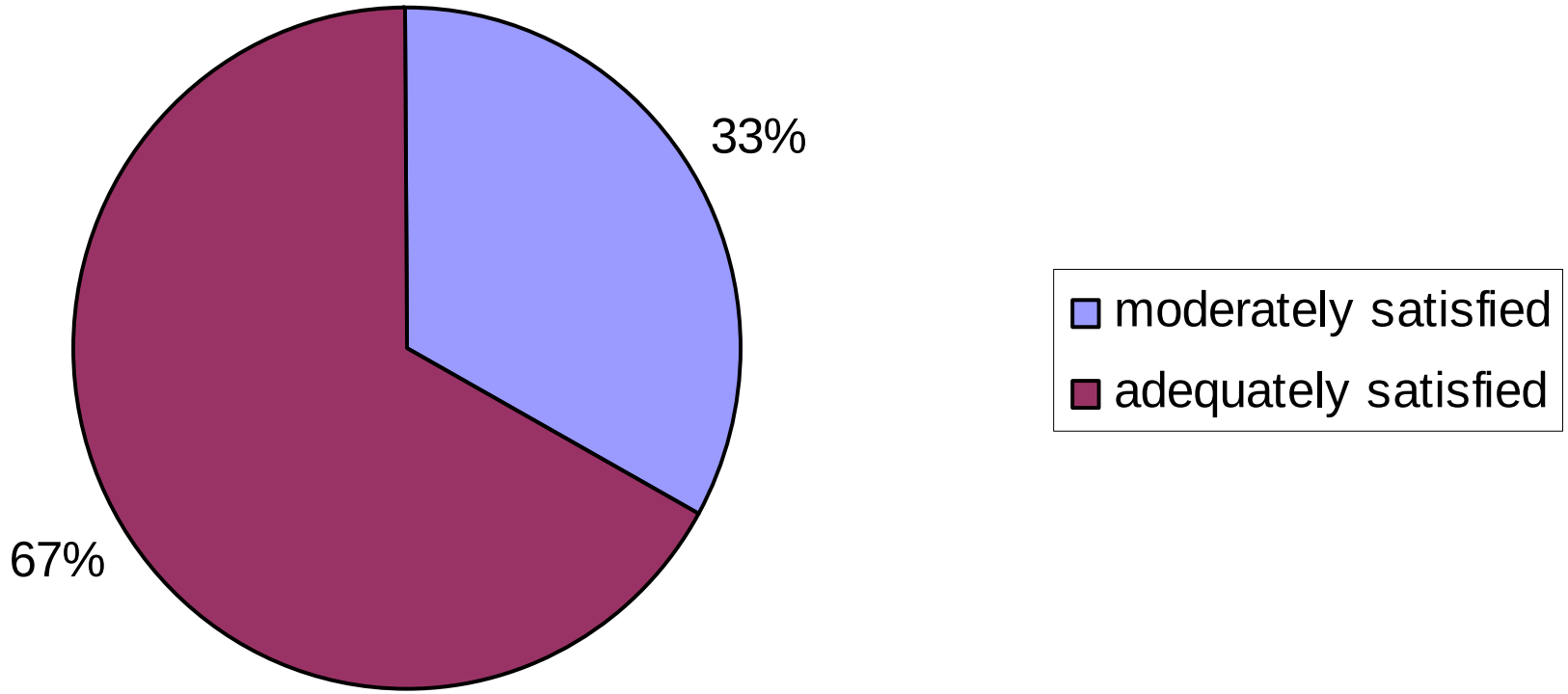
significant difference in the fetal heart rate between experimental group and control group. The post test mean score of uterine contraction duration 63(SD±8.700) in experimental group was higher than the post test mean score of uterine contraction duration 57.50(SD±7.82) in control group. Independent't' value was 7.422 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction duration between experimental group and control group. The post test mean score of uterine contraction frequency 2.719(SD±0.496) in experimental group was higher than the post test mean score of uterine contraction frequency 2.039(SD±0.094) in control group. Independent't' value was 4.963 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction frequency between experimental group and control group. The post test mean score of systolic blood pressure was 116.14(SD±6.769) in experimental group and 115.3(SD±6.775) in control group. Independent't' value was 1.253 (table value = 1.645) at $p<0.05$ level of significance shows that there is no significant difference in the systolic blood pressure between experimental group and control group. The post test mean score of diastolic blood pressure was 76.07(SD±6.042) in experimental group and 75.2(SD±6.928) in control group. Independent't' value was 1.326 (table value = 1.645) at $p<0.05$ level of significance shows that there is no significant difference in the diastolic blood pressure between experimental group and control group.

SECTION G: DETERMINE THE LEVEL OF SATISFACTION ON OLIVE OIL BACK MASSAGE AMONG EXPERIMENTAL GROUP PRIMI MOTHERS

TABLE 12: Frequency and percentage distribution of the level of satisfaction on olive oil massage therapy among experimental group.

Level of satisfaction	**Experimental group**	
	Frequency	**%**
Dissatisfied	-	-
Moderately Satisfied	10	33%
Adequately Satisfied	20	67%

Frequency and percentage distribution of post test level of satisfaction on olive oil back massage in experimental group depicts that, majority 20(67%) of primi mothers were adequately satisfied; and least 10(33%) of primi mothers were moderately satisfied.



LEVEL OF SATISFACTION OF OLIVE OIL BACK MASSAGE

Fig 10: Frequency and percentage distribution of the post test level of satisfaction on olive oil massage therapy in experimental group

SECTION H: ASSOCIATION BETWEEN THE LEVEL OF LOW BACK PAIN IN EXPERIMENTAL GROUP WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

TABLE 13: Association between the level of low back pain in experimental group with their selected demographic variables

(n= 30)

S. No	Demographic variables	None		Mild		Mode -rate		Severe		Worst		$\chi 2$	Table value	Inference
		F	%	F	%	F	%	F	%	F	%			
I	Age (in years)													
a)	18-25	-	-	-	-	19	63	5	17	-	-	0.05		
b)	26-30	-	-	-	-	5	17	1	3	-	-	(df=2)	5.99	NS
c)	31-35	-	-	-	-	-	-	-	-	-	-			
II	Education													
a)	Illiterate	-	-	-	-	6	20	1	3	-	-			
b)	Primary	-	-	-	-	5	17	-	-	-	-	2.73	7.81	NS
c)	Higher Secondary	-	-	-	-	8	26	4	13	-	-	(df=3)		
d)	Graduate	-	-	-	-	5	17	1	3	-	-			
III	Residence													
a)	Urban	-	-	-	-	11	37	2	7	-	-	0.28	3.84	NS
b)	Rural	-	-	-	-	13	43	4	13	-	-	(df=1)		
IV	Family													
a)	Nuclear	-	-	-	-	13	40	4	13	-	-	0.28	3.84	NS
b)	Joint	-	-	-	-	11	40	2	7	-	-	(df=1)		

S. No	Demographic variables	None		Mild		Mode -rate		Severe		Worst		$\chi 2$	Table value	Inference
		F	%	F	%	F	%	F	%	F	%			
V	Income													
a)	Below Rs 3000	-	-	-	-	2	7	-	-	-	-			
b)	Rs3000- Rs 5000	-	-	-	-	9	30	3	10	-	-	0.69 (df=2)	5.99	NS
c)	Above 5000	-	-	-	-	13	43	3	10	-	-			
VI	Religion													
a)	Hindu	-	-	-	-	18	60	3	6	-	-			
b)	Muslim	-	-	-	-	1	3	1	7	-	-	1.85	5.99	NS
c)	Christian	-	-	-	-	5	17	2	7	-	-	(df=2)		

df= 1 (P<0.05)

Chi- square was calculated to find out the association between the experimental group levels of low back pain with their selected demographic variables. No significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion ($p>0.05$) in the experimental group.

CHAPTER V

DISCUSSION

The discussion chapter deals with sample characteristics and objectives of the study. The aim of this present study was to evaluate the effectiveness of olive oil back massage and selected fetomaternal parameters during first stage of labor among primi mothers who are admitted in labor room at Kasthurba Memorial Hospital.

Distribution of sample characteristics

Regarding age in experimental group, majority of primi mothers 24(80%) belonged to the age group of 18-25 years and least 6(20%) belonged to age group of 26-30 Years. In control group majority of mothers 21(70%) belonged to the age group of 18-25 years and least 9(30%) belonged to the age group of 26-30 years.

With regard to education in experimental group, majority of the mothers 12(40%) had Higher secondary education, 7(23%) were illiterate, 6(20%) were graduate and least 5(17%) had only primary school education. In control group majority of mothers 13(43%) had primary education, 9(30%) had Higher secondary education, 5(17%) were illiterate and least 3(10%) were graduate.

Regarding the residence in experimental group majority of the mother 17(57%) were from rural area and least 13(43%) were from urban area. In control group majority of the mother 20(67%) were in rural area, and least (33%) were in urban area.

Regarding type of family, in experimental group majority of the primi mothers 17(57%) were from nuclear family and least 13(43%) were from joint family. In control group majority of the primi mothers 16(53%) were from nuclear family and least 14(47%) were from joint family.

In regard to income, in experimental group majority of mothers 16(53%) monthly income were above Rs 5000, 12(40%) of mothers it was between Rs.3000- Rs. 5000, and least 2 (7%) were below 3000. In control group majority of mothers 14(47%) were having monthly income of Rs.3000- Rs. 5000, 10(33%) of mothers it was above Rs 5000, and least 6(20%) were in below Rs 3000.

With reference to religion both experimental group and control group majority of primi mothers belonged to Hindu religion. In experimental group 21(67%) and in control group 26(87%) were from Hindu. Less number of primi mothers 7(23%) and 2(10%) were Christian and muslims in the experimental group whereas 3(10%) and 1(3%) of primi mothers were Christian and muslims in the control group.

The findings of the study are discussed according to the objectives follows

1) To assess the pre test and post test level of low back pain and fetomaternal parameters in experimental group
2) To assess the post test and post test level of low back pain and fetomaternal parameters in control group
3) To compare the pre test and post test level of low back pain and fetomaternal parameters in experimental group
4) To compare the pre test and post test level of low back pain and fetomaternal parameters in control group
5) To compare the post test level of low back pain and fetomaternal parameters between experimental group and control group
6) To determine the level of satisfaction on olive oil back massage among experimental group primi mothers
7) To find out the association between the post level of low back pain in experimental group with their selected demographic variables.

OBJECTIVE 1: Assess the pre test and post test level of low back pain and fetomaternal parameters in experimental group

Pre test and post test level of low back pain in experimental group depicts that, during pre test majority of primi mothers 17(57%) had severe level of low back pain and 13(43%) had moderate level of low back pain. Whereas in post test majority of 24(80%) primi mothers had moderate level of low back pain and 6(20%) had severe level of low back pain.

Pre test and post test level of fetomaternal parameters in experimental group depicts that, during pretest and post test all the samples 30(100%) fetal heart rate range were in normal limits. In regard to Uterine contraction duration, during pretest all the samples 30(100%) Uterine contraction duration were in normal range whereas in post test majority 23(77%) of primi mothers uterine contraction duration were in normal range; all the mothers 30(100%) Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.

OBJECTIVE 2: Assess the pre test and post test level of low back pain and fetomaternal parameters in control group

Pre test and post test level of low back pain in control group depicts that, during pre test majority of primi mothers 20(67%) had moderate level of low back pain and 10(33%) had moderate level of low back pain, whereas in post test majority of 19(63%) primi mothers had severe level of low back pain and 11(37%) had moderate level of low back pain.

Pre test and post test level of fetomaternal parameters in control group depicts that, during pretest and post test all the samples 30(100%) fetal heart rate range were in normal limits. Majority of primi mothers 29(97%) Uterine contraction duration ranges were in normal limits both in pre test and post test; all the mothers 30(100%)

Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.

OBJECTIVE 3: Compare the pre test and post test level of low back pain and fetomaternal parameters in experimental group

The data analysis showed that the post test mean score of level of low back pain 6(SD±0.547) was lower than the pretest mean score 7(SD±1), the paired't' value was 12.914 (table value=1.699) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between the pretest and post test in experimental group.

The findings are consistent with the findings of Jeyalakshmi S., (2008) who had conducted a study on effectiveness of olive oil massage therapy upon the low back pain of parturient mother in the first stage of labor at Andhra Mahila sabha, Chennai. The study findings are showed that, the post test mean score of level of low back pain 6.12(SD±0.491) was lower than the pre test mean score 7.82(SD±0.656), the paired 't' value was 17.433 which was showed that there is a significant difference in the level of low back pain between pretest and post test.

Hence the research hypothesis H_1: There is a significant difference between the pretest and post test level of low back pain in experimental group was accepted.

In regard to fetomaternal parameters, the post test mean score of uterine contraction duration 63(SD±8.700) was higher than the pretest mean score 54.03(SD±5.542), the paired 't' value was 5.150 (table value = 1.699) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction duration between pretest and post test. The post test mean score of uterine contraction frequency 2.719(SD±0.496) was lower than the pre test mean score 3.819(SD±0.629), the paired 't' value was 8.909 (table value = 1.699) at $p<0.05$ level of

significance shows that there is a significant difference in the uterine contraction frequency between pretest and post test. The mean of other fetomaternal parameters like fetal heart rate, systolic blood pressure and diastolic blood pressure were same in both pretest and post test.

The findings are consistent with the findings of Jeyalakshmi S., (2008) who had conducted a study on effectiveness of olive oil massage therapy upon the low back pain of parturient mother in the first stage of labor. The study findings are showed that, in experimental group the mean and standared deviation of uterine contraction frequency interval before therapy was high 4.21(SD±0.642) compared to after therapy 3.46 (SD± 0.501). Uterine contraction duration was low in before therapy 57.67(SD±6.045) compared to after therapy 71.83(SD±7.234). This showed that massage therapy increased the uterine contraction duration and decreased the frequency interval of contraction. The mean of other fetomaternal parameters such as fetal heart rate, mother's pulse rate, and blood pressure were same before and after therapy.

Hence the research hypothesis **H_2 :** There is a significant difference between the pretest and post test level of fetomaternal parameters in experimental group was accepted.

OBJECTIVE 4: To compare the pre test and post test level of low back pain and fetomaternal parameters in control group

The data analysis showed that the post test mean score of level of low back pain 7(SD±1.095) was higher than the pretest mean score 6(SD±0.0.793), the paired't' value was 5.294 (table value=1.699) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between the pretest and post test in control group.

The findings are consistent with the findings of Jeyalakshmi S., (2008) who had conducted a study on effectiveness of olive oil massage therapy upon the low back pain of pertinent mother in the first stage of labor. The findings are showed that, the post test mean score of level of low back pain 8.37(SD±0.454) was higher than the pretest mean score 7.68(SD±0.0.593), the paired't' value was 6.085 shows that there is a significant difference in the level of low back pain between the pretest and post test in control group.

In control group the pretest mean score of fetomaternal parameters such as uterine contraction duration 52.56(SD±6.26), systolic blood pressure 114.6(SD±6.30) and diastolic blood pressure 74(SD±5.53) were lower than the post test. The pretest mean score of fetal heart rate 135.9(SD±3.57) and uterine contraction frequency 2.43(SD±0.65) were higher than the post test.

The findings are consistent with the findings of Jeyalakshmi S., (2008) who had conducted a study on effectiveness of olive oil massage therapy upon the low back pain of pertinent mother in the first stage of labor. The findings are showed that in control group the mean, standard deviation of fetomaternal parameters such as mothers pulse rate 76.99(SD±5.204), uterine contraction duration 55.11(SD±9.894), systolic pressure 117.22(SD±7.546), diastolic pressure 75.92(SD±4.684) were low in before therapy compared to after therapy

OBJECTIVE 5: To compare the post test level of low back pain and fetomaternal parameters between experimental group and control group

The data analysis showed that the mean post test level of low back pain in the experimental group 6(SD±0.547) was significantly lower than the mean post test level of low back pain in the control group 7(SD±1.095). Independent't' value was 4.310 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant

difference in the level of low back pain between experimental group and control group.

The study findings are consistent with the findings of Khoda Karami, Safarzadeh (2006) who had conducted a study to evaluate the effect of massage therapy on severity of labor pain. The findings of the study shows that the mean of pain severity at the first stage of labor was significantly different between the experiment group and the control group, at the start of active phase (p=0.009), end of transitional phase (p=0.014) and end of first stage (p=0.01). Also, the duration of the first stage of labor was different in experimental group and control group. It is supposed that the results of the study would introduce massage therapy as a non pharmacological measure during delivery to reduce the labor pain

Hence the research hypothesis **H_3 :** There is a significant difference in the post test level of low back pain between experimental group and control group was accepted

Regarding the fetomaternal parameters, the post test mean score of uterine contraction duration 63(SD$\pm$8.700) in experimental group was higher than the post test mean score of uterine contraction duration 57.50(SD$\pm$7.82) in control group. Independent 't' value was 7.422 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction duration between experimental group and control group. The post test mean score of uterine contraction frequency 2.719(SD$\pm$0.496) in experimental group was higher than the post test mean score of uterine contraction frequency 2.039(SD$\pm$0.094) in control group. Independent 't' value was 4.963 at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction frequency between experimental group and control group. There was no significant difference found in other

fetomaternal parameters like fetal heart rate, systolic blood pressure and diastolic blood pressure between experimental group and control group

Hence the research hypothesis **H_4** : There is a significant difference in the post test level of fetomaternal parameters between experimental group and control group was accepted

OBJECTIVE 6: To determine the level of satisfaction on olive oil back massage among experimental group primi mothers

The level of satisfaction on olive oil massage in experimental group depicts that, majority 20(66.6%) of primi mothers were adequately satisfied; and least 10(33.3%) of primi mothers were moderately satisfied.

The study findings are consistent with the findings of Mei-Yueh Change (2002) conducted a study on effectiveness of massage on pain and anxiety during labor. The study findins are showerd that Twenty six of 30 (87%_ experimental group subjects reported that the massage was helpful, providing pain relief and psychological support during labor.

OBJECTIVE 7: To find out the association between the level of low back pain in experimental group with their selected demographic variables

The finding of the study shows that there is No significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion ($p>0.05$) in the experimental group.

The study findings are consistent with the findings of Jeyalakshmi S., (2008) who had conducted a study on effectiveness of olive oil massage therapy upon the low back pain of pertinent mother in the first stage of labor. The findings are in experimental group there was no significant association existing between the selected demographic variables such as age, educational status, and area of residence, type of family, family monthly income and level of low back pain.

Hence the research hypothesis $\mathbf{H_5}$; There will be a significant association between the level of low back pain in experimental group with their selected demographic variables was rejected

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter deals with:

- Summary of the study
- Conclusion
- Implications for nursing
- Recommendation
- Limitation

SUMMARY OF THE STUDY

The study was done to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mother.

The research design used for this study was quasi experimental design [Non-equivalent Pretest post test control group design]. The research approach used for the study was evaluative approach which was conducted in Kasthurba Memorial Hospital, Dindugul. Conceptual frame work adopted in the present study was modified Wiedenbach's- helping art of clinical nursing theory (1969). The sample size was sixty primi mothers. The samples were selected by purposive sampling method for control and experimental group.

Visual analogue scale was used to measure the level of low back pain, fetomaternal parameter grading was used to measure the fetomaternal parameters, and rating scale was used to assess the level of satisfaction on olive oil back massage

The purposive sampling technique was used to select 60 samples out of which 30 for experimental groups and 30 for control group. The samples for control and experimental group were selected on alternative days. For experimental group 1-2 samples were selected per day. The investigator gave brief introduction to the primi mothers.

The pretest was assessed for both experimental group and control group by using visual analogue scale for low back pain and fetmaternal parameter grading for fetomaternal parameters. The olive oil back massage was given for 10 minutes in every one hour with 10 ml of olive oil in experimental group for three times. The post test was done after 15 minutes of olive oil back massage. Primi mothers in control group were given routine hospital care, and then the post test was done after one hour of pre test. Finally the post test level of satisfaction on olive oil back massage was assessed by using rating scale among experimental group. The collected data were analyzed and tabulated using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY

- In experimental group majority of primi mothers (80%) belong to the age group of 18-25 years whereas in control group majority of primi mothers (70%) belong to the age group of 18-25 years.
- In experimental group majority of primi mothers (40%) studied Higher secondary school whereas in control group majority of primi mothers (43.3%) studied primary school
- In experimental group and control group majority of primi mothers (57%) and (67%) belong to rural area
- In experimental group and control group majority of primi mothers (57%) and (53%) belong to nuclear family

- In experimental group Majority of primi mothers (53%) were in above Rs 5000 whereas in control group Majority of primi mothers (46.6%) were in Rs.3000-Rs. 5000
- In experimental group and control group majority of primi mothers (87%) and (67%) belong to Hindu
- In experimental group, during pre test majority of primi mothers 17(57%) had severe level of low back pain and 13(43%) had moderate level of low back pain. Whereas in post test majority of 24(80%) primi mothers had moderate level of low back pain and 6(20%) had severe level of low back pain.
- In experimental group, during pretest and post test all the samples 30(100%) fetal heart rate ranges are normal. During pretest all the samples 30(100%) Uterine contraction duration were in normal range whereas in post test majority 29(96.3%) of primi mothers uterine contraction duration were in normal range; all the mothers 30(100%) Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.
- In control group, during pre test majority of primi mothers 20(67%) had moderate level of low back pain and 10(33%) had moderate level of low back pain, whereas in post test majority of 19(63%) primi mothers had severe level of low back pain and 11(37%) had moderate level of low back pain
- In control group, during pretest and post test all the samples 30(100%) fetal heart rate range were in normal limits. Majority of primi mothers 29(97%) Uterine contraction duration ranges were in normal limits both in pre test and post test; all the mothers 30(100%) Uterine contraction frequency, systolic blood pressure and diastolic blood pressure were in normal range both in pretest and post test.
- The post test mean score of level of low back pain 6(SD±0.547) was lower than the pretest mean score 7(SD±1), the paired't' value 12.914 value=1.699) which was significant at 0.05 level in the experimental group.

- The post test mean score of uterine contraction duration 63(SD±8.700) was higher than the pretest mean score 54.03(SD±5.542), the paired 't' value was 5.150 (table value = 1.699) which was significant at 0.05 level in the experimental group.
- The post test mean score of uterine contraction frequency 2.719(SD±0.496) was lower than the pre test mean score 3.819(SD±0.629), the paired 't' value was 8.909 (table value = 1.699) which was significant at 0.05 level in the experimental group.
- The post test mean score of level of low back pain 7(SD±1.095) was higher than the pretest mean score 6(SD±0.0.793), the paired 't' value 5.294 (table value = 1.699) which was significant at 0.05 level in the control group.
- The post test mean score of uterine contraction duration 57.50(SD±7.82) was higher than the pretest mean score 52.56(SD±6.26), the paired 't' value was 5.802 (table value = 1.699) which was significant at 0.05 level in the control group.
- The post test mean score of uterine contraction frequency 2.39(SD±0.09) was lower than the pre test mean score 2.43(SD±0.65), the paired 't' value was 3.53 (table value = 1.699) which was significant at 0.05 level level in the control group.
- The mean post test level of low back pain in the experimental group 6(ASD±0.547) was significantly lower than the mean post test level of low back pain in the control group 7(SD±1.095). Independent't' value was 4.310 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the level of low back pain between experimental group and control group.
- The post test mean score of uterine contraction duration 63(SD±8.700) in experimental group was higher than the post test mean score of uterine contraction duration 57.50(SD±7.82) in control group. Independent 't' value was 7.422 (table value = 1.645) at $p<0.05$ level of significance shows that there is

a significant difference in the uterine contraction duration between experimental group and control group.

- The post test mean score of uterine contraction frequency 2.719(SD±0.496) in experimental group was higher than the post test mean score of uterine contraction frequency 2.039(SD±0.094) in control group. Independent 't' value was 4.963 (table value = 1.645) at $p<0.05$ level of significance shows that there is a significant difference in the uterine contraction frequency between experimental group and control group.
- The post test level of satisfaction on olive oil back massage in experimental group, majority 20(66.6%) of primi mothers were adequately satisfied; and least 10(33.3%) of primi mothers were moderately satisfied.
- In the experimental group no significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion ($p>0.05$) in the experimental group.

CONCLUSION

Pain in labor is a nearly universal experience for child bearing women. Labor pain is a challenging issue for nurses designing intervention protocols. The present study assessed the effectiveness of olive oil massage on low back pain and selected fetomaternal parameters in Kasthurba Memorial Hospital. Based on statistical findings, it is evident that the olive oil back massage among primi mothers reduce the level of low back pain ('t' value = 4.310) and uterine contraction frequency ('t' value = 4.963), increase the uterine contraction duration ('t' value = 7.422) in the experimental group comparing to control group. Therefore the investigator felt that more importance should be given to the assessment of low back pain by using standardized tool following which olive oil back massage can be given as a non pharmacological measure to reduce low back pain during first stage of labor.

IMPLICATIONS OF NURSING

NURSING SERVICE

- Nurses can be motivated to practice various comfort measures to manage or reduce the level of labor pain
- Back massage helps to reduce the level of labor pain perception, provide comfort and relaxation which is common to every women in labor and helps to be calm and relax during labor process.

NURSING EDUCATION

- The nurse educator can provide in-service educations to nursing personnel to update their knowledge about the techniques of back massage and its valuable benefits to the women in labor, and for the personal practice as a means of good parturient outcome.
- The nurse educator can create awareness about the benefits of massage technique by preparing references which provides information about techniques of massage, the therapeutic effects and disseminating it to the midwives and all the women in labor.
- The nurse educator can include the massage technique as a means of non pharmacological measures in the curriculum, which can be adopted by the students and the nursing personnel.

NURSING ADMINISTRATION

- The nursing administrator should conduct in-service education to disseminate the research findings through continuous nursing education to all nurses.
- Clinical nurses and nurse educators should be given in-service education to update their knowledge regarding massage technique.

NURSING RESEARCH

- The findings of this study help to motivate the nurses to conduct research about massage technique in future.

- This study may be conducted on a large population to strongly prove the efficacy of massage technique on low back pain.

RECOMMENDATIONS

- Similar kind of study can be conducted for third trimester low back pain antenatal mothers
- A comparative study can also be done between the effectiveness of various non pharmacological measures for labor pain.
- A comparitive study can also be conducted between primi and multi women in labor.
- The effect of back massage can be assessed in combination with other non pharmacological measures like acupressure and music therapy for the good parturient outcome.

LIMITATIONS

- The time spent for giving massage was only 10 minutes
- The study was done for 60 samples. Hence generalization is possible for selected samples.

BIBLIOGRAPHY

BOOK REFERENCES:

1. Adele, P. (2003). **Maternal and Child Health Nursing**. (4th ed). Philadelphia: Lippincott Williams & Wilkims. pp.523-27

2. Dutta, D.C. (2004). **Text Book of Obstetrics.** (4th ed). Calcutta: New central book agency. Pp. 117-18, 130-135
3. Dawn, C.S. (2000). **Text Book of Obstetrics including perinatality and contraception.** (3rd ed). Calcutta: New Central Book Agency. p.486
4. Dawn, C.S. (2003). **Text Book of Obstetrics and Neonatology.** (5th ed). Calcutta: New Central Book Agency. pp.232-243
5. Fraser, D.M. et.al. (2003). **Myles Text Book of Midwives.** (14th ed). Edinburgh: Churchill Livinstone.pp. 438,471-83
6. Gurumani, N. (2005). **An introduction to Biostatistics**. (2nd ed). Chennai: MJP Publishers. Pp. 164-69
7. Julia, G.B. (1995). **Nursing Theories**. (4th ed). California: A pearson Education Company. 179-191
8. Jacob, M. (2005). **A Comprehensive Text Book of Midwifery**. (1st ed). New Delhi: Jaypee brothers. pp.596-606
9. Lowis, S.L. et.al. (2004). **Medical Surgical Nursing.** (7th ed). London: Mosby company. Pp.924-35
10. Ladewig, J. (1990). **Essentials of maternal Newborn Nursing.** (3rd ed). California: Addision – Wesley Company. Pp. 423-26
11. Leifer, G. (2005). **Maternity Nursing.** (9th ed). Philadelphia: Elseveir pp. 114-115
12. Lynna, L.Y. (2007). **Maternity Nursing Care.** (1st ed). Haryana: Sanat Printers. Pp. 481-83, 540
13. Murray, S.S. (1998). **Foundations of Maternal- Newborn nursing.** (2nd ed). Pennsylvania: WB Saunders Company. Pp. 367-74
14. Mahajan, B.K. (2005). **Methods in Biostatistics.** (6th ed). NewDelhi: Jaypee Brothers Medical Publishers. Pp. 131-39,169-77
15. Park, K. (2007). **Preventive and Social Medicine.** (19th ed). Jabalpur: Banarsidas Bhanot. pp.211-213
16. Perry, L. (2006). **Maternity Nursing. (7th ed)** Missouri: Mosby. pp. 341-49

17. Polit, D.F. (2008). **Introduction to Nursing Research**. (8th ed). Newdelhi: J.B. Lippincott publications. Pp. 265-71
18. Hungler, B.P. (1999). **Nursing Research**. (6th ed). Philadelphia: Lippincott. Pp. 366-75, 171-86
19. Reader, S.J. (1997). **Maternity Nursing**. (18th ed). Newyork: Lippincott. Pp. 574-83
20. Sundar, R.P.S. (1999). **An Introduction to Biostatistics**. (3rd ed). New Delhi: Vera Medical Publications. Pp.146-152
21. Snyder, M. (2006). **Complimentry and alternative therapies in nursing.** (5th ed). Newyork: Spring publications. Pp. 284-92
22. Taylor, C. (2005). **Fundamentals of Nursing**. (5th ed). New Delhi: Lippincott Publications. Pp. 1387-94
23. Tomey, A.M. (2002). **Nursing theorists and their work**. (3rd ed). Philadephia: Mosby publication. P.98-105

JOURNAL REFERENCES

24. Change, M.Y. (2002). Effects of massage on pain anxiety during labor. **Journal of Advanced Nursing.** 38(5): 68-73
25. Jeyalakshmi, S. (2008). Effectiveness of olive oil massage therapy upon low back pain of parturient mothers in the first stage of labor**. Nightingale Nursing Times.** 23(10): 48-51
26. Mohanal, D. et.al., (2008). Assessment of effectiveness of acupressure on labor outcome among primiparturient mothers. **Nightingale Nursing Times.** 15: 11-18
27. Molina, F.J. (1997). Pain in the first stage of labor: relationship with the patients position. **Journal of pain and symptom management.** 13: 98-103
28. Melzack, R. et.al. (1984). Severity of Labor Pain. **Canadian Medical Association Journal.** 130(5): 579-584
29. Medscape, (2004). Non pharmacological approach to relieve labor pain. **Journal of Midwifery women's health**. 43(7): 12-17
30. Prabhudeva, S.S. (2005). Back Massage. **Nightingale Nursing Times.** 21: 34,35
31. Rajakumari, A. et. al., (2008). Effectiveness of music therapy in terms of level of pain perception among primigravida mothers. **Nightingale Nursing Times.** 4: 48-50
32. Rekha, M. (2010). Effectiveness of ice massage for the reduction of labor pain. **Nightingale Nursing Times.** 5(3): 29-33
33. Senju, (2002). Labor and Delivery pain. **Nightingale Nursing Times.** 23: 43-48
34. Simkin, P.P. and Ohara, M. (2002). Non Pharmacological Relief of Pain during Labor. **American Journal of Obstetric and Gynecology.** 186(5), 31-59
35. Sridevy, D. (2008). Effect of Therapeutic Back Massage on Non Specific Low back pain. **Nightingale Nursing Times.** 4 (9); 65-67
36. Santhi, M.D. (2008). Non pharmacological technique during labor. **Nightingale Nursing Times.** 4(2): 60-62

37. Simkin, P.T. (2004). Update on non pharmacological approach to relieve pain and suffering. **Journal of Midwifery and women's health.** 49: 89-504
38. Vijayalakshmi, S. (2008). Non Pharmacological Methods helpful to both laboring women and care givers. **Nightingale Nursing Times.** 5: 15-19

NET REFERENCE:

39. http://www.ncbi.n/m.nih.gov/pubmed
40. http://www.ajog.org/search/quick
41. http://journals/ww.com/jnr-twna/abstract/
42. http://kidshealth.org/parent/pregnancy-center/childbirth_pain.html
43. http://www.everydayhealth.com/pregnancy/childbirth.aspx
44. http://road.www.edu/road/glossers/345fallo4/birthrates.doc
45. http://www.update.com/patients
46. http://www.issuesinmedicalethics.org/163co/17.html
47. http://www.nic.in/nrbm.htm
48. http://www.ijcm.org.in/article.asp
49. http://www.childbirth.org
50. http://www.bodytherapy/associates.com/research
51. http://www.pregnancyabout.com
52. http://www.medscape.com
53. http://www.ncbi.nlm.nih.gov/pubmed
54. http://www.grannymed.com/remedies/conditions-pain/massage-for-pain-during-labor
55. http://www.medterms.com/script/main/art
56. http://www.audioenglish.net/search
57. http://www.babies.betterhealth.org/labor&delivery

APPENDIX - A

Dr. T.S.SOUNDRAM
Founder

Dr. R. KOUSALYA DEVI
Adviser

Dr. INDRU TUPULUR
Medical Superintendent

Shri. M.R.RAJAGOPALAN
Honorary Administrator

"Success Attends Where Truth Reigns"
- Gandhiji's message
on the inauguration of Gandhigram in 1947

KASTURBA HOSPITAL
(A UNIT OF GANDHIGRAM TRUST)
GANDHIGRAM - 624 302
Dindigul District
Tamil Nadu
Phone : 0451 - 2452321
0451 - 2452328
Grams : 'Gandhigram'
e-mail : mdu_khggt@sancharnet.in

Ref. No.1417/2010-Trg.

Date 15.04.2010

To

The Principal,
Bishop's College of Nursing,
C.S.I. Mission Compound,
Dharapuram – 638 656,
Tirupur District.

Dear Friend,

Ref : Your three letters No.BCN/134/1/4/2009-2010
dated 07.04.2010.

Three of your M.Sc.(N) programme second year students came here with your letter asking for permission to do study on a project at Kasturba Hospital, Gandhigram during the month of June 2010.

We hereby permit the students Ms.M.Shanthi, Mrs.P.Anto Udhaya and Ms.M.Mekala. I have spoken to them on 08.04.2010. We shall permit them to do the study at our hospital but they should find accommodation outside may be at the Gandhigram Institute of Rural Health and Family Welfare, situated close to our hospital. Training fee Rs.600/- per month per student.

With best wishes,

Yours sincerely,

(Dr.R.KOUSALYA DEVI)
ADVISER

APPENDIX - B

LETTER SEEKING EXPERT'S OPINION FOR VALIDITY OF TOOLS

From

Ms. M. Mekala,
M.Sc. (Nursing) II year,
Bishop's College of Nursing,
Dharapuram.

To

Respected Madam/Sir,

SUB: Requisition for content validity of tool

I am M.Sc. (Nursing) second year student of Bishop's College of Nursing, Dharapuram, under Dr. M.G.R Medical University, Chennai. As a partial fulfillment of my M.Sc.(N) Degree Programme, I am conducting a research on **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul".** One of the initial steps of the research study is to develop a tool. I am sending the above stated for content validity and for your expert and valuable opinion.

I will be very thankful to return it to the undersigned.

Your's sincerely,

Encl;

(M.MEKALA**)**

1. Certificate of content validity
2. Statement of problem, objectives, operational definition, hypothesis
3. Description of the tool and tool for data collection
4. Self addressed envelope

Principal

APPENDIX – C

OBSTETRICS AND GYNECOLOGICAL NURSING

LIST OF EXPERTS FOR VALIDATION

1. **Mrs. K. Vijayalakshi, M.Sc (N).,**
   Associate Professor,
   Department of Obstetrics and Gynecological Nursing,
   Vinayaka Missions Annapoorna College of Nursing,
   Salem.

2. **Ms. S.Padmavathi, M.Sc (N),**
   Associate Professor,
   Department of Obstetrics and Gynecological Nursing,
   Dhanvathri College of Nursing,
   Erode.

3. **Mrs. Annapoornai, M.Sc (N),**
   Associate Professor,
   Department of Obstetrics and Gynecological Nursing,
   R.V.S College of Nursing,
   Sulur, Coimbatore.

4. **Mrs. Sahayamary, M.Sc., (N),**
   Reader,
   Department of Obstetrics and Gynecological Nursing,
   Annai Meenakshi College of Nursing,
   Madukarai,
   Coimbatore.

5. **Dr. Deivamathi, M.B.B.S., D.G.O,**
   Obstetrics and Gynecologist,
   Nivetha Hospital,
   Dharapuram.

APPENDIX – D

CERTIFICATE FOR VALIDITY

This is to certify that **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** has been validated by me and found appropriate with mentioned suggestions.

Signature : K. Vijayalakshmi 10/6/10

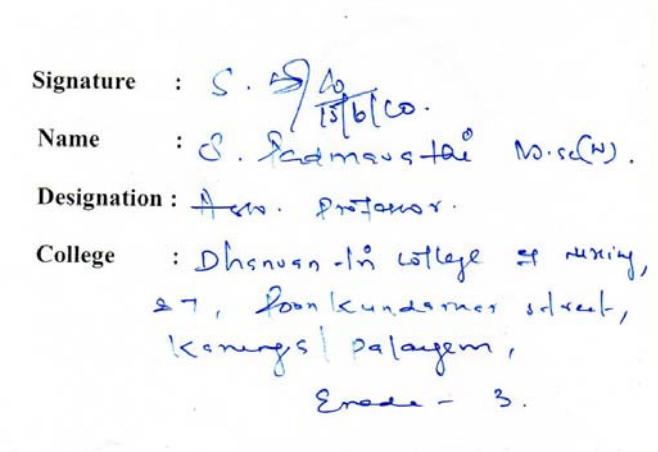
Name : K. VIJAYALAKSHMI.

Designation : ASST. PROFESSOR.

College : VINAYAKA MISSIONS ANNAPOORANA COLLEGE OF NURSING. SALEM.

CERTIFICATE FOR VALIDITY

This is to certify that **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** has been validated by me and found appropriate with mentioned suggestions.



CERTIFICATE FOR VALIDITY

This is to certify that **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** has been validated by me and found appropriate with mentioned suggestions.

Signature : B.A

Name : Mrs. B. ANNAPOORANI.

Designation : Assoc. PROFESSOR.

College : R.V.S. College of Nursing

CERTIFICATE FOR VALIDITY

This is to certify that **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** has been validated by me and found appropriate with mentioned suggestions.

Signature : A. Sahayam

Name : A. SAHAYAMARY.

Designation : READER.

College : ANNAI MEENAKSHI COLLEGE OF NURSING.

COIMBATORE.

CERTIFICATE FOR VALIDITY

This is to certify that **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** has been validated by me and found appropriate with mentioned suggestions.

Signature:

Name:

Designation:

College

Dr.L.DEIVAMATHI, M.B.B.S., D.G.O.,
Regd.No. : 54780
NIVETHA HOSPITAL
DHARAPURAM-638656.

APPENDIX – E

CERTIFICATE FOR ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul ."** done by Ms. M. Mekala, II Year M.sc (Nursing) student of Bishop's college of nursing ,Dharapuram is edited for English language appropriateness by P.SAMPATH. M.A., M.Phil., MEd.

Signature
P.SAMPATH

Date :

Address :

P.SAMPATH M.A.,M.Phil.,M.Ed.,
LECTURER IN ENGLISH
MAHARANI TEACHER TRAINING INSTITUTE
NANJIAMPALAYAM, DHARAPURAM.

APPENDIX – F

CERTIFICATE FOR TAMIL EDITING CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation **"A study to evaluate the effectiveness of olive oil back massage on low back pain and selected fetomaternal parameters during first stage of labor among primi mothers at Kasthurba Memorial Hospital, Dindigul"** done by Ms.M.Mekala, II Year M.Sc., (Nursing) student of Bishop's College of Nursing, Dharapuram is edited for Tamil language appropriateness by _____.

Signature

த. சிரஞ்சீவிமேரி. எம்.ஏ.,எம்.எட்.,
முதுகலை தமிழாசிரியை,
சி.எஸ்.ஐ. பெண்கள் மேல் நிலைப் பள்ளி,
தாராபுரம் - 638 656.

Date : 13.01.11

Address : NO, 9 ,
C.S.I NAGAR,
DHARAPURAM,
TIRUPUR DIST.

APPENDIX - G

TOOLS

PART – I

DEMOGRAPHIC VARIABLES

1. Age in years P

    a) 18-25 yrs

    b) 26-30 yrs

    c) 31-35 yrs

2. Educational status

    a) Illiterate

    b) Primary

    c) Higher secondary

    d) Graduate

3. Residence

    a) Urban

    b) Rural

4. Type of family

    a) Nuclear family

    b) Joint family

5. Income

    a) Below Rs. 3000

    b) Rs.3001 – 5000

    c) Above Rs. 5000

6. Religion

    a) Hindu

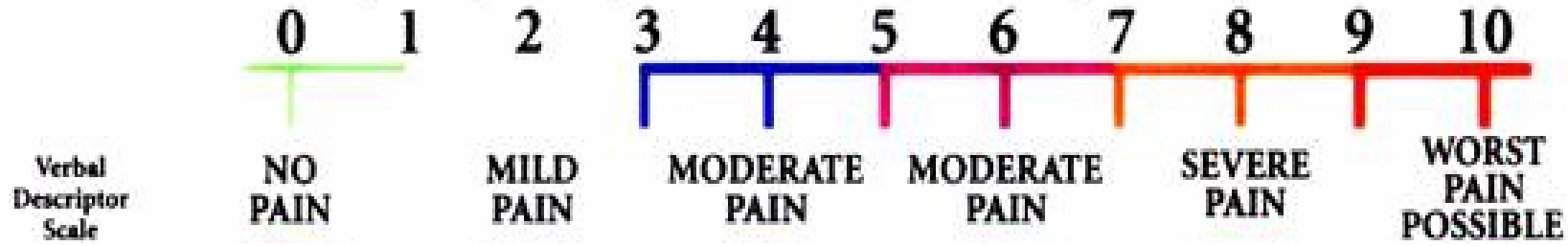
    b) Muslim

    c) Christian

PART– II

UNIVERSAL PAIN ASSESSMENT TOOL

This pain assessment tool is intended to help patient care providers assess pain according to individual patient needs. Explain and use 0-10 Scale for patient self-assessment. Use the faces or behavioral observations to interpret expressed pain when patient cannot communicate his/her pain intensity.



PART– III

BIOPHYSIOLOGICAL FETOMATERNAL PARAMETERS GRADING TABLE

S. NO	FETOMATERNAL PARAMETERS	NORMAL	BELOW NORMAL	ABOVE NORMAL
1.	Fetal Heart Rate	110-150 beats/ minute	Below 110 beats/ minute	Above 150 beats/ minute
2.	Uterine contractions- Duration	30-70 Sec	Below 30 sec	Above 70 sec
3.	Uterine contractions – Frequency	1-5 minutes	Below 1 min	Above 5 min
4.	Systolic Blood Pressure	110-130 mmHg	Below 110 mmHg	Above 150 mmHg
5.	Diastolic Blood Pressure	70-90 mmHg	Below 70 mmHg	Above 90 mmHg

SCORING PROCEDURE

Normal

Above normal

Below normal

PART– IV

RATING SCALE ON SATISFACTION OF OLIVE OIL BACK MASSAGE

S.NO	STATEMENT	STRONGLY DISAGREE (0)	DISAGREE (1)	NEITHER AGREE NOR DISAGREE (2)	AGREE (3)	STRONGLY AGREE (4)
1.	Pain is partially reduced					
2.	Olive oil is smooth and gives good muscle relaxation					
3.	Duration of massage is sufficient					
4.	Olive oil massage is comfortable					
5.*	Excess pressure causes discomfort					
6.*	Skin irritation is felt during massage					
7.*	Massage may cause some harm to the baby					
8.*	Massage may lengthen the duration of labor					
9.	The position is comfortable during the massage.					
10.*	Massage may produce some complication to the mother.					

- *Indicates negative questions
- Others are positive questions

SCORE FOR POSITIVE STATEMENT

Strongly disagree	– 0
Disagree	- 1
Neither agree nor Disagree	- 2
Agree	- 3
Strongly agree	- 4

SCORE FOR NEGATIVE STATEMENT

Strongly disagree	– 4
Disagree	- 3
Neither agree nor Disagree	- 2
Agree	- 1
Strongly agree	- 0

Ra Fwpg;gpl

tiuaWf;fg;gl;l Neh;fhzy; ml;ltiz

gFjp- m

1. taJ
   m. 18-25 taJ
   M. 26-30 taJ
   ,. 31-35 taJ

2. fy;tpj; jFjp
   m) gbg;gwptpy;yhik
   M) njhlf;ff; fy;tp
   ,) cah;epiyf; fy;tp
   <) gl;lg; gbg;G

3. FbapUg;G
   m) fpuhkk;
   M) efuk;
4. FLk;g tpjk;
   m. jdpf;FLk;gk;
   M. $l;Lf;FLk;gk;

5. khj FLk;g tUkhdk;
   m. &. 3000f;Fk; Fiwthf
   M. &. 3001- &.5000
   ,. &. 5001f;Fk; Nky;

6. kjk;
   m) ,e;J
   M) K];yPk;

,) fpwp];Jtk;

gFjp - M

krh[pw;F gpd; jpUg;jpia fz;lwpAk; msTNfhy;

t. vz;	nghUslf;fk;	fl;lhakhf kWf;fpNwd; (0)	kWf;fpNwd; (1)	Vw;Wf; nfhs;sTk;> kWf;fTk;kpy;iy (2)	Vw;Wf; nfhs;fpNwd; (3)	fl;lhahkhf Vw;Wf; nfhs;fpNwd; (4)
1.	typ ghjpahf FiweJs;sJ					
2.	Xypt; vz;nza; tOtOg;ghdJ kw;Wk; jir ,Wf;fj;ijf; Fiwf;fpd;wJ.					
3.	krh[Pw;fhd Neuk; NghJkhdJ					
4.	Xypt; vz;nza; krh[; RfkhdJ					
5.	mjpfkhd mOj;jk; mnrsfhpaj;ijf; nfhLf;fpwJ.					
6.	krh[; nra;Ak; nghOJ Njhy; vhpr;ry; czug;gLfpwJ.					
7.	krh[; Foe;ijf;F VJk; tpisit cz;lhf;fyhk;.					
8.	krh[; gpurt Neuj;ij mjpfg;gLj;jyhk;.					
9.	krh[pd; NghJ nfhLf;fg;gl;l mq;fl;jpjp (m) epiy nrsfhpakhf ,Ue;jJ.					
10.	krh[; jha;f;F gpd; tpisTf;F Vw;gLj;jyhk;.					

APPENDIX - H

PROCEDURE FOR OLIVE OIL BACK MASSAGE

The primi mother was made to lie down on a bed in left lateral position. The sacral area was exposed and the 10 ml of olive oil was applied over the area and the massage was given in circular motion by using one hand.

COST EFFECTIVENESS

The total amount of olive oil used for 30 patients for 17 days was 900 ml. The total cost for the amount of olive oil spent was Rs. 640.

Signature:

Name:

Designation:

College

Dr.L.DEIVAMATHI, M.B.B.S., D.G.O.,
Regd.No. : 54780
NIVETHA HOSPITAL
DHARAPURAM-638656.